CANADA

NATIONAL ENERGY BOARD
REASONS FOR DECISION

Interprovincial Pipe Line Limited

Application dated 5 September 1986
for new tolls effective 1 January 1987

RH-4-86

June 1987

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Recital and Appearances

IN THE MATTER OF the National Energy Board Act and the Regulations made thereunder; and

IN THE MATTER OF an application by Interprovincial Pipe Line Limited for certain orders respecting tolls and tariffs pursuant to Part IV of the National Energy Board Act, filed with the Board under File No. 1762-J1-11.

HEARD at Ottawa, Ontario on 2, 3, 4, 5, 9, 10, 11, 12, 16, 17, 18 and 19 December 1986; 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 26, 27, 28, 29 and 30 January 1987; 2 and 3 February 1987; 3 and 4 March 1987.

BEFORE:

A.D. Hunt	Presiding Member
R.B. Horner, Q.C.	Member
A.B. Gilmour	Member

APPEARANCES:

R.P. Smith C. Schuch J. Beames, Q.C.	Interprovincial Pipe Line Limited
D.A. Holgate	Canadian Petroleum Association
H.M. McIntosh	Independent Petroleum Association of Canada
R.S. O'Brien, Q.C.	Air Canada, Canadian Pacific Air Lines, Limited (Canadian Airlines International Ltd.), Nordair Ltée-Nordair Ltd.
F.M. Saville, Q.C. J. Fingarson	Dome Petroleum Limited
L.D. Horne	Gulf Canada Corporation
J.E. Carstairs M. Carey W.J. Honeywell	ICG Liquid Gas Ltd.
J.B. Ballem, Q.C.	Imperial Oil Limited
R.H. Mackie P.R. Murray	PanCanadian Petroleum Limited
Y. Brisson	Pétromont Inc.
E.S. Decter	Petro-Canada Inc.
T.M. Hughes	Polysar Hydrocarbons Limited

R. Riegert	Shell Canada Limited
A.M. Bigué F. Rioux	SOLIGAZ
R. Bédard P.S. Boivin A.M. Bigué	SOQUIP
R. Kyle T.P. Hanrahan D.G. Hart, Q.C.	Superior Propane Inc.
L. O'Hara	Trans Mountain Pipe Line Company Ltd.
J. Stein	Alberta Petroleum Marketing Commission
R. Moyse D.H. Rogers	Minister of Energy for Ontario
J. Giroux J. Robitaille	le Procureur général du Québec
L. Keough	National Energy Board

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Appendices

Abbreviations

Act	National Energy Board Act
AEDC	Allowance for Equity Funds Used During Construction
AFUDC	Allowance for Funds Used During Construction
APMC	Alberta Petroleum Marketing Commission
Applicant Company Interprovincial IPL	Interprovincial Pipe Line Limited
bbl	Barrel
Base Year	1 January to 31 December 1985
Board NEB	National Energy Board
CPA	Canadian Petroleum Association
CWIP	Construction Work in Progress
DCF	Discounted Cash Flow
Dome	Dome Petroleum Limited
Home Oil	Home Oil Co. Ltd.
IPAC	Independent Petroleum Association of Canada
IPL(NW)	Interprovincial Pipe Line (NW) Ltd.
Imperial	Imperial Oil Limited
Lakehead	Lakehead Pipe Line Company Inc.
m^3	Cubic Metre
m^3/d	Cubic Metre per Day
m^3km	Cubic Metre-Kilometre
NGL	Natural Gas Liquids
OPUAR	Oil Pipeline Uniform Accounting Regulations
Petro-Canada	Petro-Canada Inc.

Pétromont	Pétromont Inc.
Shell	Shell Canada Limited
Test Year	1 January to 31 December 1987
The Airlines	Air Canada; Canadian Pacific Air Lines, Limited (Canadian Airlines International Ltd.); and Nordair Ltée - Nordair Ltd.

Definitions

Class 'C' Construction	Miscellaneous construction of a routine nature which, at the discretion of the Board, may suitably be the subject of an exemption order under Section 49 of the Act.
Cubic Metre-Kilometre	One cubic metre of hydrocarbon moved a distance of one kilometre.
Deficiency Agreement	An agreement dated 8 April 1975, as amended, between the Government of Canada and the Company whereby the former has agreed to pay Interprovincial the amount of any shortfall experienced if the annual operating revenues of the Montreal Extension are insufficient to meet its fixed and variable costs of operation.
February 1984 IPL Reasons for Decision	National Energy Board Reasons for Decision in the matter of the Application under PartIV of the National Energy Board Act (Tolls Application) of Interprovincial Pipe Line Limited - February 1984.
Integrated System	Interprovincial's Canadian pipeline system comprised of the Older System and the Montreal Extension.
Integrated System Tolls	Tolls which would be paid by all shippers on the Interprovincial pipeline system, derived from the revenue requirement of the entire integrated system.
Modified Older System	The pipeline system which would be operated by Interprovincial in Canada if the extension from Sarnia to Montreal did not exist.
Modified Older System Tolls	Tolls derived from the revenue requirement of the Modified Older System.
Montreal Extension (or) the Extension	That part of Interprovincial's pipeline system in Canada extending from Sarnia to Montreal that was constructed pursuant to Certificate of Public Convenience and Necessity OC-30, and any additions thereto authorized by the Board.
Phase I	A project designed to increase the capacity of Line 2. The facilities were estimated to cost $22.5 million. The increased capacity was available in the last quarter of 1985.
Phase II	A project designed to increase the capacity of Lines 2 and 3. The facilities were estimated to cost $87 million, with the increased capacity intended to be available in the fourth quarter of 1986.

Phase III	A construction program undertaken to increase the capacity of Lines 1 and 3 to meet the Company's forecast throughput requirements in 1988. The project cost was originally estimated at $235 million, with the additional capacity intended for service in the last quarter of 1987.
Older System	Interprovincial's Canadian pipeline system other than the Montreal Extension.
13-Point Average	An average determined by aggregating the balance at the opening of a year and the balances at the end of each month of the year, and dividing by thirteen. Over the years, the Board and others have referred to an average determined in this fashion as a 13-month average.

Note on the Format of the Reasons for Decision

As a result of revisions submitted by the Applicant to its throughput forecast and projections of capital additions (as explained in Sections 3.2.1 and 6.2.4), amounts for certain components of the revenue requirement are not contained in these Reasons for Decision. They are marked by a "†" symbol and must be calculated by the Applicant. Accordingly, Interprovincial must file revised rate base, operating expense and revenue requirement data for the Older System and the Montreal Extension and new tolls in accordance with Order No. TO-2-87 and these Reasons.

Upon receipt of these figures, the Board will confirm that they have been determined in accordance with the Board's directions and will then issue a final order approving the new tolls. In the interest of completeness, the Board will subsequently issue an Addendum to the present Reasons containing all approved figures. The Addendum will be comprised of the following tables[1]:

2-1	Revenue Requirement
2-2	Cost of Service Summary
3-1	Summary of Rate Base - Older System
3-2	Summary of Rate Base - Montreal Extension
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1 Reference is to the tables as they are numbered in these Reasons for Decision.

Overview

(Note: This overview is provided solely for the convenience of the reader and does not constitute part of this Decision or the Reasons, for which readers are referred to the detailed text and tables.)

The Application

On 5 September 1986, Interprovincial Pipe Line Limited applied to the Board for new tolls to be effective for the test year commencing 1 January 1987.

The main features of Interprovincial's application included an overall average increase in light-crude tolls of approximately 29 percent over 1986 levels, and a decrease in rate of return on equity from 15.25 to 14.75 percent (which was later amended to14.5 percent). The Applicant also requested that the Board approve a toll design for IPL's planned propane service from Sarnia to Millgrove; and a toll design for the transportation of NGL on the Montreal Extension should it be converted to accomodate NGL service.

The Hearing

A public hearing, lasting 31 days, was held at the NEB's offices in Ottawa during the period from 2 December 1986 to 4 March 1987.

Highlights of the Board's Decisions

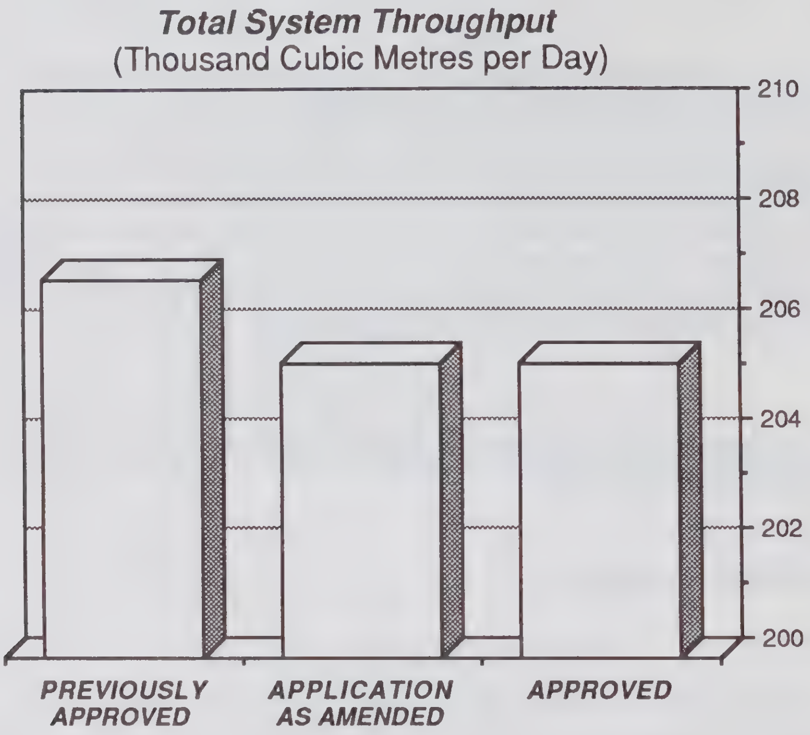
Revenue Requirement

During the proceedings, IPL provided the Board with a revised throughput forecast, but did not accompany that forecast with a revised estimate of fuel and power costs. In addition, IPL submitted only preliminary calculations of its revised revenue requirement to reflect the Company's proposed revisions to its projected capital additions. Therefore, the Board has not included final approved test-year revenue requirements or new tolls in these Reasons for Decision. After receipt of figures to be provided by the Applicant, the Board will verify them and issue a final order to approve the new tolls.

The Board's preliminary estimate based on the numbers available on the record is that its decisions will result in an approved total revenue requirement approximately 22 percent over 1986 levels and 4 percent lower than the adjusted applied-for level. In view of the Board's Decision with respect to capacity surcharges for medium and heavy crudes, the Board's Decisions will result in an overall average increase in light-crude tolls for the test year of approximately 20 percent over 1986 levels. The large increase in tolls over 1986 levels is primarily a result of IPL's recent expansion program which resulted in an applied-for average test-year rate base some 45 percent higher than that approved for 1986.

Throughput

During the proceedings, the Applicant revised its test-year throughput estimate from 206 800 m^3/day to 205 400 m^3/day to reflect a delay in the completion of new facilities. The Board approved IPL's revised throughput forecast for the 1987 test year.



Toll Design and Other Tariff Matters

IPL submitted proposed tolls based upon the integrated toll design methodology approved by the Board in 1984. During the hearing, IPL submitted that the test adopted for determining whether two-part or integrated tolls apply should be abandoned. The Board accepted IPL's arguments of fairness and found that the test is no longer necessary.

The Board approved IPL's proposal that the costs associated with the proposed propane project be allocated between the light-crude base and a propane surcharge in accordance with the methods currently employed by IPL for NGL and refined products. However, the Board rejected IPL's percentage surcharge proposal which would involve temporary cross-subsidization between propane shippers and other shippers on IPL's system. The Board found that if IPL wishes to implement toll levelling for the propane surcharge in order to make the service more attractive, the mechanism must not result in cross-subsidization among shippers.

The Board approved IPL's proposal that the costs associated with the possible conversion of the Montreal Extension to carry NGL be allocated between the light-crude base and an NGL surcharge in a manner similar to that employed for NGL and refined products. However, the Board rejected IPL's proposal that the NGL-surchargeable costs of this project be added to

the NGL revenue requirement for existing NGL service on the Older System. The Board found that there should be a separate NGL surcharge determination for the service on the Montreal Extension.

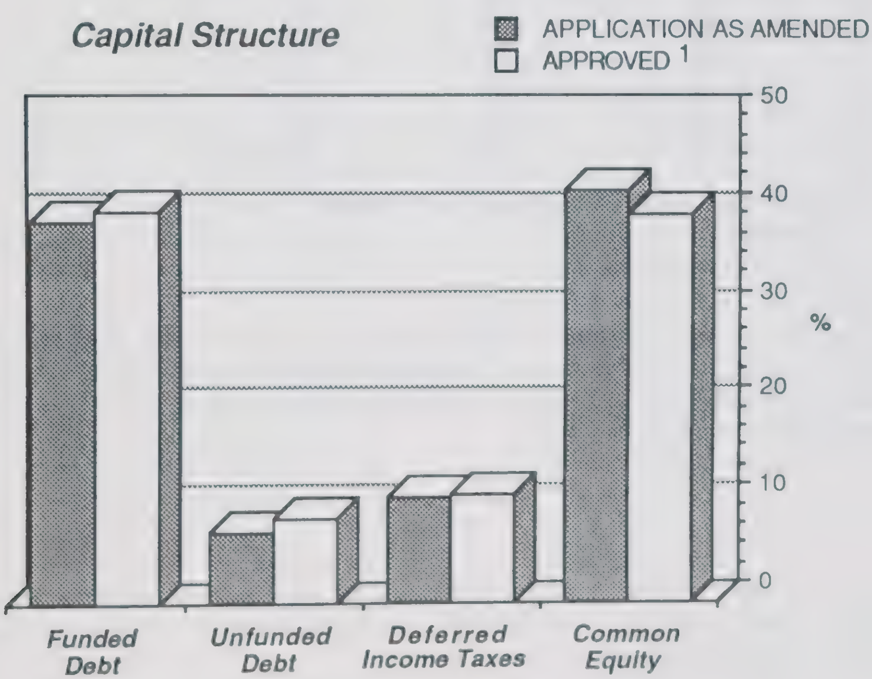
The Board directed that, pro tem, capacity surcharges of 5 and 15 percent over the light-crude toll shall apply to medium and heavy crudes respectively. IPL was directed to study methodologies which may be used to assess the level of capacity surcharges for all the hydrocarbons transported on its system.

The Board accepted, for the test year, IPL's use of the historical 5 and 15 percent operating cost surcharges for medium and heavy crudes respectively. However, IPL was directed to develop an incremental-cost methodology for calculating these surcharges in the future.

The Board found it appropriate that refined products be granted a power-cost credit to reflect the lower power consumption of these streams relative to that of light crude. The credit is to be calculated using the same methodology that is used to determine the power-cost credit for NGL.

Capital Structure and Rate of Return on Equity

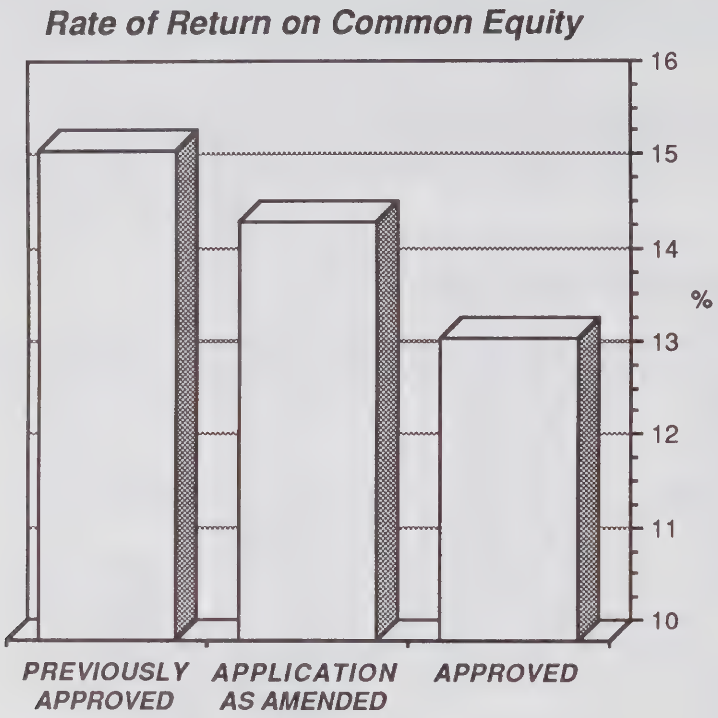
For the Older System, IPL proposed a deemed capitalization equal to the average test-year rate base plus construction work in progress and deferred assets. The Board denied the inclusion of deferred assets.



1 With the exception of the common equity ratio, approved ratios shown are preliminary estimates based on the numbers available on the record.

The Company applied for a deemed common equity ratio of 42.5 percent, the same level approved by the Board in the last Class 3 toll decision for IPL. After considering the evidence, the Board decided that a deemed common equity ratio of 40 percent would be appropriate for the test year. This ratio is comparable to an equity ratio of approximately 45 percent if deferred income taxes are excluded from the capital structure.

The Company requested a rate of return on common equity, as amended, of 14.5 percent, representing a 75 basis point decrease from the rate approved in the last Class 3 toll decision for IPL. The Board found 13.25 percent to be a fair and reasonable rate of return on common equity.



The Board accepted IPL's applied-for balance of long-term debt for the Montreal Extension and the associated 10.81 percent cost rate. Consistent with its decision with respect to the unfunded debt for the Older System, the Board approved a rate of 10 percent for the other debt attributable to the Montreal Extension.

Operating Costs

Interprovincial proposed a number of adjustments to its original cost of service estimates for the test year. For the most part the Board is satisfied with the reasonableness of the cost of service estimates as adjusted.

With respect to the allocation of costs to IPL's various activities, the Board directed that a further allocation of costs for assets used to provide administrative services to Lakehead be deducted from IPL's cost of service. The Board also directed that IPL(NW) be assessed fees for the use of IPL's aircraft and for standby services, and that one-third of the costs of directors' and officers' liability insurance be excluded from the cost of service.

Chapter 1
Background and Application

1.1 Background

Interprovincial Pipe Line Limited (the Applicant, the Company, Interprovincial or IPL) was incorporated by a Special Act of the Parliament of Canada on 30 April 1949. It was continued as a company under the Canada Corporations Act, by letters patent issued on 1 August 1973 and under the Canada Business Corporations Act by a certificate of continuance issued by the Minister of Consumer and Corporate Affairs on 2 June 1980. It is a company within the meaning of the National Energy Board Act (the Act). The powers of the Applicant include those of constructing and operating interprovincial and international pipelines and related facilities for the transmission of oil.

The Applicant owns and operates an oil pipeline system from Edmonton, Alberta, to a point on the international boundary between Canada and the United States near Gretna, Manitoba, and from a point on the international boundary in the St. Clair River near Sarnia, Ontario to Montreal, Quebec. Branch lines extend from Westover, Ontario, to a point on the international boundary in the Niagara River near Chippewa, Ontario, and to Nanticoke, Ontario. The pipeline owned and operated by Interprovincial is a pipeline within the meaning of the Act.

The pipeline system owned and operated by the Applicant interconnects with the pipeline system owned by Lakehead Pipe Line Company Inc. (Lakehead) on the international boundary between Canada and the United States at points near Gretna, Manitoba and the St. Clair River near Sarnia, Ontario. Lakehead is a wholly-owned subsidiary of the Applicant and, being located in the United States, is regulated by the U.S. Federal Energy Regulatory Commission.

Interprovincial Pipe Line Limited, through its subsidiary Interprovincial Pipe Line (NW) Ltd. (IPL(NW)), owns a crude-oil pipeline which extends from Norman Wells in the Northwest Territories to Zama in northwestern Alberta. This pipeline is regulated as a separate entity by the Board and is outside the scope of this hearing.

Interprovincial's initial toll application was heard by the National Energy Board (the Board or NEB) in several sessions during 1976, 1977 and 1978, followed by a second toll application heard by the Board in May 1980 and a third heard in November 1983. Since the November 1983 hearing, the Company has been granted two toll adjustments, one on 1 September 1984 under procedures established by Board Order No. TO-4-80, and another on 1 January 1986 under procedures prescribed by Board Order No. TO-4-85.

For the five months commencing 1 September 1986, the tolls put in place on 1 January 1986 were suspended by Board Order No. TO-1-86 to reflect the short-term arrangement between Interprovincial, Dome Petroleum Limited (Dome) and Cochin Pipe Lines Ltd. to make space available on the IPL system for transportation of materials by diverting certain volumes of natural gas liquids (NGL) to the Cochin Pipe Lines system.

1.2 Application

By an application dated 5 September 1986, Interprovincial applied under Part IV of the NEB Act for Orders to approve:

1. tolls and tariffs to be charged by the Applicant effective 1 January 1987 for the transportation of crude oil and other liquid hydrocarbons;

2. a toll design for the proposed propane service in Ontario; and

3. a toll design related to the potential conversion of the Montreal Extension (the Extension) to accommodate the transportation of NGL.

By Order No. RH-4-86, the Board set the application down for public hearing. The hearing commenced on 2 December 1986, in Ottawa, Ontario

and continued for 31 days during the months of December 1986, and January, February and March 1987. The hearing concluded on 4 March 1987.

By Order No. TOI-2-86, the Board authorized new tolls at a level which represented 95 percent of the applied-for tolls, as revised by IPL, effective 1 January 1987 on an interim basis. These interim tolls were to remain in effect until the date specified in the Board's final order with respect to the application.

Chapter 2
Revenue Requirement

The net revenue requirement that the Company is authorized to collect by means of tolls will consist of the cost of service plus return on rate base less adjustments for certain allocations to Lakehead, IPL(NW) and Home Oil Co. Ltd. (Home Oil) and revenue to be received from operations other than pipeline transportation service.

The Company is required to provide the Board with a summary of its net revenue requirement and cost of service using the format set out in Tables 2-1 and 2-2 respectively.

Table 2-1
Revenue Requirement
($000)

Older System	**Application**	**Adjustments**	**NEB Approved**
Cost of Service Including Income Taxes	160,184	†	†
Cost of Capital	53,156	†	†
Gross Revenue Requirement	213,340	†	†
Less: Other Revenue	451	–	451
Cost Allocation Adjustment	250 [1]	† [2]	†
Net Revenue Requirement	212,639	†	†
Montreal Extension			
Cost of Service Including Income Taxes	17,008	†	†
Cost of Capital[3]	11,491	†	†
Gross Revenue Requirement	28,449	†	†
Less: Other Revenue	1,050	–	1,050
Net Revenue Requirement	27,449	†	†
Total System Net Revenue Requirement	240,088	†	†

† Figure to be supplied by the Company.

1 This represents that portion of the applied-for return on the jet that is allocated to Lakehead plus an adjustment for the related income tax which is included in the cost of service.

2 This adjustment, in addition to reflecting other decisions of the Board, reflects the decisions of the Board in Sections 6.3.1 and 6.3.2 to allocate to Lakehead a portion of the return and income taxes on computer equipment, leasehold improvements and office furniture and equipment and to allocate to IPL(NW) a portion of the return and income taxes for the jet aircraft.

3 The Montreal Extension cost of capital does not include an equity component (see Section 5.7).

Table 2-2
Cost of Service Summary
($000)

Older System	Application	Adjustments	NEB Approved
Total Operating Expenses	119,317	† [1]	†
Provision for Depreciation and Amortization	24,471	† [2]	†
Other Income Deductions	279	(232) [3]	47
Overhead and Direct Labour Capitalized	(4,965)	† [4]	†
Administrative Charge to Lakehead	(8,145)	† [5]	†
Direct and Administrative Charge to IPL(NW)	(2,460)	† [6]	†
Other Deductions from Cost of Service	(358)	† [7]	†
Cost of Service Before Income Taxes	128,139	†	†
Provision for Income Taxes	32,045	† [8]	†
Total Cost of Service	160,184	†	†
Montreal Extension			
Total Operating Expenses	10,096	† [1]	†
Provision for Depreciation and Amortization	6,912	–	6,912
Cost of Service Before Income Taxes	17,008	†	†
Provision for Income Taxes	–	–	–
Total Cost of Service	17,008	†	†

† Figure to be supplied by the Company.

1 Details of adjustments to operating expenses are shown in Table 6-1.

2 The Board has directed IPL to adjust its depreciation and amortization expense (see Section 4.1).

3 Other income deductions are reduced to reflect the allocation of capital stock administration expense to other activities (see Section 6.3.5).

4 This adjustment reflects revisions IPL made to its forecast test-year additions to plant (see Section 3.2).

5 IPL is to adjust its administrative charge to Lakehead to reflect an allocation of depreciation on shared assets and a portion of aircraft depreciation, and operating and maintenance costs allocated to IPL(NW) (see Sections 6.3.1 and 6.3.2).

6 The Board has directed IPL to charge IPL(NW) fees for standby services and the aircraft. This adjustment includes the standby fee and a portion of depreciation, and operating and maintenance expenses on the aircraft (see Section 6.3.2).

7 IPL increased its other income deductions by $386,000 to reflect the allocation of administrative costs to Home Oil. In addition, the Board directed that the allocation to Home Oil be further increased by an allocation of directors' and officers' liability insurance (see Section 6.3.3).

8 IPL will be required to recalculate its income tax provision to incorporate various Board decisions (see Table 5-5).

Chapter 3
Rate Base

3.1 Introduction

Tables 3-1 and 3-2 provide summaries of rate base items and compare amounts contained in the application to the Board-approved amounts. The amounts shown as adjustments incorporate revisions made by Interprovincial and by the Board. These adjustments are explained in the succeed-

Table 3-1
Summary of Rate Base - Older System
($000)

Assets in Service	**Application**	**Adjustments**	**NEB Approved**
Transportation Plant	734,174	† [1]	†
Other Plant	187	–	187
Leasehold Improvements	861	–	861
Plant Leased to Others	982	–	982
Adjustment:			
Leasehold Improvements			
Non-Carrier Floor Space	(10)	–	(10)
Total Assets in Service	736,194	†	†
Accumulated Depreciation			
Transportation Plant	(264,931)	† [2]	†
Other Plant	(117)	–	(117)
Leased Facilities	(258)	–	(258)
Adjustment:			
Leasehold Improvements			
Non-Carrier Floor Space	7	–	7
Total Accumulated Depreciation	(265,299)	†	†
Net Assets in Service	470,895	†	†
Allowance for Working Capital	8,418	† [3]	†
Total Rate Base - Older System	479,313	†	†

† Figure to be supplied by the Company.

1 Adjustment reflects IPL's revisions to its forecast test-year additions to plant in service, the Board-approved AFUDC rates and the adjustment for AFUDC on holdbacks and accruals (see Sections 3.2.1, 3.3.1 and 3.3.2).

2 Adjustment reflects changes to depreciation resulting from adjustments identified in (1) above.

3 See Table 3-3.

Table 3-2
Summary of Rate Base - Montreal Extension
($000)

	Application	Adjustments	NEB Approved
Assets in Service	238,790	–	238,790
Accumulated Depreciation	(131,665)	–	(131,665)
Net Assets in Service	107,125	–	107,125
Allowance for Working Capital	673	† [1]	†
Total Rate Base - Montreal Extension	107,798	†	†

† Figure to be supplied by the Company.

1 See Table 3-4.

ing sections of this chapter. Table 3-1 is for the Older System and Table 3-2 is for the Extension.

3.2 Plant in Service

3.2.1 Forecast Test-Year Additions to Plant in Service

The plant portion of rate base is calculated on a 13-point average basis in accordance with the method approved by the Board in its February 1984 IPL Reasons for Decision. The Board notes that the substantial increase in the applied-for Older System rate base ($479 million for the test year versus $262 million for the base year) is largely attributable to the Phase II and III facilities expansion programs. The calculation of the test-year rate base in the application as filed was based on a cost estimate of $87 million for Phase II expansion and an amended estimate of $218 million for Phase III expansion. The Applicant subsequently revised these estimates to $83 million and $201 million for Phases II and III respectively. Interprovincial also requested that its fourth supplemental Class C application for 1986 amounting to $1.7 million, which was not included in the application as filed, be added to plant as it had now been approved by the Board. Interprovincial reflected these revisions to calculate revenue requirements for interim toll purposes by making an estimate of the effect of those changes on rate base. The Applicant, however, did not precisely recalculate the applied-for rate base. During cross-examination, the Applicant's witness indicated that the Company would await the Board's decision and update the rate base at that time.

During cross-examination with respect to both Phase II and Phase III cost estimates, a Company witness stated that IPL expected to come very close to the revised budgets and no further major cost revisions were expected. It was also indicated that the cost reductions would not affect projected completion dates for these construction programs.

Decision

The Board is satisfied that the Applicant's most recent cost estimates and projections of in-service dates are reasonable. The Board also accepts the level of overhead and direct labour capitalized during the test year.

The Company provided information analyzing its historical completion record of Class C construction projects from 1978 to 1985. The Board finds that the Company's performance in terms of Class C plant additions, included in toll applications, that have been completed and placed in service is reasonable. Accordingly, the Board has decided to allow the applied-for Class C additions to plant, including the forecast amount of the fourth supplemental 1986 Class C application noted earlier.

The Board accepts the forecast test-year additions to plant in service and directs Interprovincial to adjust the rate base and revenue requirement accordingly to reflect the amendments noted earlier.

3.3 Allowance for Funds Used During Construction

3.3.1 Test-Year Forecast AFUDC

In calculating the allowance for funds used during construction (AFUDC) related to the capital additions on the Older System for the test year, Interprovincial used a preliminary forecast rate of return on rate base of 11.26 percent. IPL's originally applied-for rate of return on rate base was 11.09 percent. The AFUDC component of the additions to Older System plant amounted to $17.9 million. No AFUDC was included in the forecast capital additions to the Extension for the test year. During cross-examination, the Company's witness indicated that any adjustment to recalculate AFUDC using 11.09 percent or the Board-approved rate of return on rate base would not be material.

Decision

The Board is of the view that in this instance materiality considerations should not obviate the need to reflect properly AFUDC in the test year using the Board-approved rate of return on rate base.

The Board directs that the test-year forecast AFUDC be recalculated using the approved rate of return on rate base for the test year, calculated pursuant to Chapter 5 of these Reasons for Decision. Further, the Board directs that the rate base and revenue requirement be adjusted accordingly to reflect this decision.

3.3.2 AFUDC on Holdbacks and Accruals

Interprovincial indicated that it used month-end balances of construction work in progress (CWIP) in the calculation of AFUDC and that, in calculating AFUDC, no adjustment was made to recognize the timing of settlement of financial commitments such as holdbacks and accruals. During cross-examination, IPL's witness acknowledged that since IPL has use of these funds until they are actually paid out, the current practice results in AFUDC being overstated by an amount of AFUDC on holdbacks and accruals. It was stated that the current method was followed for simplicity and convenience.

For 1986, IPL advised that AFUDC totalling $354,000 was taken on holdbacks and accruals. IPL estimated that the test-year AFUDC taken on holdbacks and accruals was, at most, half that amount.

Decision

The Board considers it proper practice to adjust the AFUDC in the test year and in subsequent years to exclude AFUDC on holdbacks and accruals. The Board acknowledges that should, for instance, the Company be required to pay funds to a trust account for the benefit of the contractors, it would then not have use of these funds and in such circumstances, AFUDC on amounts of this nature could be properly claimed.

The Board directs that the test-year AFUDC be recalculated to exclude AFUDC on holdbacks and accruals and that the rate base and revenue requirement be adjusted accordingly.

3.4 Working Capital

3.4.1 Allowance for Cash Working Capital

The application filed by IPL reflected a change in the method of determining the cash working capital provision from the method approved by the Board. The results of the new lead/lag study indicated a 19-day provision for the cash working capital allowance for the Older System and a 17-day provision for the Montreal Extension compared to 23 days and 2 days respectively under the approved method. The application of these provisions to the test year yielded a combined allowance for cash working capital that was $951,000 lower under the proposed method than the approved method.

IPL stated that the proposed method was based on cash flows, and measured periods from cash outflows to cash inflows which represented the period over which the Company must finance working capital. It was also pointed out that the approved method was extremely complicated and onerous due to transaction coding requirements. That method took into consideration the concept of in-transit time and the point in time when service

was provided. In the Applicant's view, the proposed method is less subjective and provides a higher degree of verification since there are no factors such as lumpiness[1]. During cross-examination, a witness for the Company indicated that the proposed method was more accurate than the approved method.

Some specific aspects of the new study and some assumptions made for the study were also examined during the hearing. None of the intervenors took issue with the proposed methodology.

Decision

The Board notes the positive attributes of the proposed lead/lag study method compared to the approved method and, accordingly, approves the proposed method and the determination of the allowance for cash working capital based on a 19-day provision for the Older System and a 17-day provision for the Extension.

3.4.2 Inclusion of Average Employee Mortgages in Working Capital

The appropriateness of including in the allowance for working capital the average balances of employee mortgages was examined during the hearing. The Applicant indicated that employee mortgages involved the outlay of funds which were necessary in providing utility service.

It is Interprovincial's policy to provide assistance in the form of repayable interest-free mortgages to employees who are required by the Company to relocate to another location. IPL stated that this facilitated the transfer of management and field employees from one location to another. During cross-examination, a Company witness explained that IPL did not follow the practice of offering substantial salary adjustments to assist in employee relocation. The Company's policy of providing this mortgage assistance was not part of a compensation package but was rather designed to facilitate relocation of personnel and the operation and management of the Company.

Decision

The Board is satisfied that it would be appropriate to include the average balances of such employee mortgages in working capital and accepts the Company's treatment of employee mortgages.

3.4.3 Inclusion of Deferred Toll Hearing Costs in Working Capital

The appropriateness of including deferred toll hearing costs in the allowance for working capital was also considered during the hearing. During cross-examination, IPL's witness acknowledged that their inclusion in working capital would be a departure from past practice. The Company witness agreed that in the past either the Company had not requested or the Board had not allowed inclusion of this item in working capital.

Decision

While toll hearing costs are clearly a utility cost, the Board is not persuaded that inclusion of these deferred costs in working capital is appropriate.

In particular, the Board is not convinced that such costs should be allowed to earn a return. Accordingly, the Board directs that these costs be excluded from working capital.

3.4.4 Working Capital Summary

Tables 3-3 and 3-4 summarize for the Older System and the Extension respectively the determination of working capital. The adjustments to the originally applied-for amounts are explained in the tables.

3.5 Preliminary Survey and Investigation Costs

The Applicant has incurred costs and continues to expend funds for preliminary investigation of projects which, if successful, it states will be of benefit to shippers. These projects include a computer application and office automation review and a technical study of the feasibility of making the Montreal Extension capable of shipping NGL. During the hearing, various matters relating to

1 A provision for lumpiness is a cushion that recognizes that there may be variations in the timing of receipt of revenues and payment of expenses which are beyond the control of the Company and were not taken into consideration in the previous lead/lag study.

Table 3-3
Determination of Working Capital
Older System
($000)

	Application	Adjustments	NEB Approved
Cost of Service Including Income Taxes	160,184	† [1]	†
Cash Exclusions and Non-Cash Items Included in Above			
– Amortization of Toll Hearing Costs	(120)	(60) [2]	(180)
– Provision for Depreciation and Amortization	(24,471)	† [3]	†
– Amortization of Non-Carrier Leasehold Improvements	4	–	4
– Depreciation and Amortization Recovered on Charges to Lakehead	723	† [4]	†
– Depreciation and Amortization Recovered on Charges to IPL(NW)	3	† [4]	†
– Provision for Deferred Income Taxes	(9,845)	† [5]	†
– Insurance Expense	(1,306)	–	(1,306)
– Oil Loss Expense	(2,921)	† [6]	†
Cost of Service for Working Capital Allowance	122,251	†	†
Cash Working Capital 19/365 x 122,251	6,364	†	† [7]
Operating Materials and Supplies Inventories	670	–	670
Prepaid Insurance	512	–	512
Employee Mortgages	572	–	572
Deferred Toll Hearing Costs	300	(300) [8]	–
Allowance For Working Capital	8,418	†	†

† Figure to be supplied by the Company.

1 Reflects the adjustment to cost of service (see Table 2-2).

2 Reflects the change in the amortization period for toll hearing costs (see Section 6.2.6).

3 Reflects the adjustment to depreciation and amortization expense ordered by the Board (see Section 4.1).

4 Reflects the decisions of the Board regarding cost allocation (see Sections 6.3.1 and 6.3.2).

5 Reflects the adjustment to the deferred income taxes provision (see Table 5-5).

6 Reflects adjustment to oil loss expense per Table 6-1 (see Section 6.2.7).

7 NEB-approved amount to be calculated by multiplying the approved cost of service for working capital allowance by 19/365.

8 Reflects the Board's decision to disallow the inclusion of toll hearing costs in working capital (see Section 3.4.3).

Table 3-4
Determination of Working Capital
Montreal Extension
($000)

	Application	Adjustments	NEB Approved
Cost of Service	17,008	† [1]	†
Cash Exclusions and Non-Cash Items Included in Above			
– Provision for Depreciation and Amortization	(6,912)	–	(6,912)
– Insurance Expense	(393)	–	(393)
– Oil Loss Expense	(253)	† [2]	†
Cost of Service for Working Capital Allowance	9,450	†	†
Cash Working Capital 17/365 x 9,450	440	†	† [3]
Operating Materials and Supplies Inventories	79	–	79
Prepaid Insurance	154	–	154
Allowance For Working Capital	673	†	†

† Figure to be supplied by the Company.

1 Reflects the adjustment to cost of service (see Table 2-2).

2 Reflects adjustment to oil loss expense per Table 6-1 (see Section 6.2.7).

3 NEB-approved amount to be calculated by multiplying the approved cost of service for working capital allowance by 17/365.

these projects were examined. It is the Applicant's position that these expenditures are properly treated as preliminary survey and investigation costs and should be recorded as such in Account 44, as provided in the Oil Pipeline Uniform Accounting Regulations (OPUAR). A Company witness indicated that carrying charges on the Extension NGL project had been accrued since 1 October 1985 at the rate of prime plus 1 percent. This was the rate provided for in the agreement dated 8 April 1986 between SOQUIP and IPL.[1]

Decision

The Board notes that, while the costs are now being deferred, their final disposition is not being determined at this time. With respect to the rate to be used for the accumulation of carrying charges, the Board considers the rate of return on rate base to be appropriate notwithstanding any commercial arrangement which may exist between SOQUIP and IPL for the recovery of the preliminary survey and investigation costs of the Extension NGL project.

1 Under this agreement, SOQUIP agreed to reimburse IPL for any project costs that IPL ultimately is unable to recover through its tolls or any agreement it enters into with the federal government. For the purpose of the Agreement, "Project Costs" were defined to mean all reasonable costs and expenses of outside consultants and contractors retained by Interprovincial in connection with the project either before or subsequent to the date of this Agreement, together with interest thereon at prime rate plus 1 percent.

The Board accepts the Applicant's deferral of preliminary survey and investigation costs and approves carrying charges at the approved rate of return on rate base for the Older System. The matter of whether these costs should be included in rate base or whether they should be amortized through inclusion of an appropriate charge in the cost of service will be addressed after the disposition of the particular project.

Chapter 4
Depreciation and Amortization

4.1 Test-Year Forecast

Interprovincial included depreciation and amortization expense for the total system of $31,383,000 in its forecast 1987 cost of service. Subsequent to the filing of the application, Interprovincial reduced its cost estimates for its Phase II and Phase III construction projects and requested the inclusion in rate base of its fourth supplemental application for Class C construction. Also, the Board adjusted the Company's test-year forecast AFUDC as discussed in Section 3.3.

Decision

The Board requires that IPL adjust its test-year forecast depreciation and amortization expense to reflect the above-mentioned changes.

4.2 Depreciation on Assets Reclassified

As a result of IPL's Phase II construction, some assets which were previously specially classified, amounting to $15,308,490, were placed back in service by the Applicant in 1986 and reclassified within transportation plant. Since these assets had been fully amortized when specially classified, the issue of the appropriateness of recommencing depreciation on them upon their return to transportation plant was examined. The Applicant maintained that this practice was consistent with the group depreciation concept provided for in the OPUAR and that these assets were properly included in depreciation calculations. IPL's witness stated that these assets could not be distinguished from any other assets in the group, although by strict mathematical computation it may be suggested that an individual asset is already fully depreciated. No intervenors questioned the Company's treatment.

Decision

The Board is satisfied that assets specially classified were returned to service as part of a group of assets and accordingly considers it appropriate to depreciate the reclassified assets in accordance with the group concept provided for in the OPUAR.

The Board notes that the transfer of these assets to plant in service included a credit to accumulated depreciation equal to the full book value of these assets ($15,308,490). Thus, over time, given the group method of accounting for depreciation, there will be no duplication of depreciation charges resulting from the transfer of these assets to plant in service.

4.3 Depreciation Study

The Applicant used depreciation rates that have been in effect since January 1982 to calculate depreciation expense for the test year. During cross-examination, an IPL witness stated that the Company's annual monitoring of the rates indicated that these depreciation rates remain appropriate. The Company said it was currently involved in preparing a more detailed depreciation study.

Decision

The Board accepts the depreciation rates used for the test year in the application. The Board notes, however, that considerable time has elapsed since the Company's last depreciation study and considers that it would now be appropriate to establish the depreciation rates based on a new depreciation study.

The Board directs that Interprovincial conduct a depreciation study which is to be filed with the Board and served on interested parties by 31 December 1987.

Chapter 5
Cost of Capital

Interprovincial owns and operates an oil pipeline system with two distinct segments known as the Older System and the Montreal Extension. For the Older System, the Company requested that the Board consider and decide upon a revised deemed capitalization, a higher cost rate for long-term debt, a rate at which to cost unfunded debt, a deemed common equity ratio, and a reduced rate of return on common equity. For the Extension, IPL requested that the Board make a decision regarding its requests for a lower cost rate for long-term debt and a rate at which to cost other debt.

5.1 Older System

The Company applied for a rate of return on rate base, as amended, of 11.01 percent[1] for the test year ending 31 December 1987. This compares to the existing approved rate of 10.69 percent. This rate of return was based upon a deemed capitalization[2] that equates to the forecast average utility rate base plus CWIP and deferred assets. The applied-for deemed capital structure, as revised, the corresponding individual cost rates and the overall requested rate of return are shown in Table 5-1.

1 Per Exhibit B-50, updated to reflect the Company's applied-for rate of return on common equity of 14.5 percent as stated in argument.

2 A deemed capitalization is a capitalization used for toll-making purposes that differs from a company's actual capitalization. A deemed capitalization is generally implemented in circumstances where a company's equity capital exceeds the level considered appropriate to the risks of its utility assets or where a company becomes diversified to such an extent that its actual capitalization is not considered suitable for calculating the cost of financing its utility assets.

Table 5-1
Applied-For Deemed Average Capital Structure and Rates of Return for the Test Year
Older System

	Amount ($000)	Capital Structure (%)	Cost Rate (%)	Cost Component (%)
Debt – Funded	226,251	39.24	10.47	4.11
– Unfunded	42,408	7.36	10.00	0.74
Total Debt Capital	268,659	46.60		4.85
Deferred Income Taxes	62,830	10.90	–	–
Common Equity	245,014	*42.50*	*14.50*	6.16
Total Capitalization	576,503	100.00		
Rate of Return on Rate Base				11.01

5.2 Inclusion of Deferred Assets in Capitalization

The Company requested that deferred assets representing costs incurred in the preliminary investigation of potential projects for which an application has not been made, or for which Board approval has not been received[1], be included in its Older System capital structure.

A witness for the Company considered these costs to be similar in nature to those categorized as CWIP, noting that the only difference between the two was that the costs related to the deferred assets would not be captured in the capital account, simply because they are related to non-capital projects or are related to projects whose disposition had yet to be determined.

Decision

The Board is of the view that costs related to the preliminary survey and investigation of potential projects for which application has not been made or for which Board approval has not been received should not be included in capitalization.

5.3 Funded Debt

The long-term debt component of the deemed capitalization represents the average projected test-year balance of debt capital associated with the Older System.

In its original application, the Company calculated the embedded cost of long-term debt to be 10.84 percent. IPL also submitted an estimate of what this rate would be if it were calculated on a 13-point average basis. The resultant rate was somewhat lower, but not materially. A Company witness indicated that he had no objection to the funded debt balance being calculated on a 13-point average basis, given that rate base is determined in a similar fashion.

The applied-for cost rate was subsequently revised to 10.47 percent to reflect the issuance in December 1986 of Series H debentures totalling $125 million. The coupon rate associated with these debentures is 10 percent. No intervenor took issue with the applied-for balance of long-term debt, as amended, or the recalculated embedded cost rate.

Decision

The Board approves the inclusion of this debt in the deemed capital structure used for toll-making purposes, and the embedded cost rate of 10.47 percent. However, consistent with the methodology used to determine rate base, the Board directs the Company to calculate its embedded cost of long-term debt on a 13-point average basis in future toll proceedings.

5.4 Unfunded Debt

Unfunded debt[2] represents the portion of long-term debt which remains to be raised by future debt issuances. In its original application, the Company indicated that this balance was projected to be $166,734,000 in the test year. However, this balance was later amended to $42,408,000 to reflect the issuance in December 1986 of $125 million of long-term debt. Further, IPL indicated that it intended to issue long-term debt in the test year. The Company requested that its forecast unfunded debt balance be costed at a rate of 10 percent. No intervenor took exception to this rate.

Decision

The Board accepts as reasonable the applied-for rate of 10 percent.

5.5 Common Equity

5.5.1 Common Equity Ratio

The Company applied for a deemed common equity ratio of 42.5 percent, unchanged from the level currently approved for toll-making purposes. In applying for this ratio, IPL continued the practice of including deferred income taxes in the capital structure. In support of the applied-for equity ratio, the Company relied on the recommendations of its expert witnesses.

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1 The manner in which such expenditures should be recorded and the rate to be used for determining carrying charges thereon is set out in Section 3.5.

2 The dollar value of this balance is calculated by subtracting long-term debt, deferred income taxes and common equity capital from total capitalization.

The applied-for equity ratio was seen by an expert witness for the Company as representing the lower end of a reasonable range, given his views with respect to the business risks to which the Older System is exposed and the transfer of risks from the Montreal Extension. During cross-examination, IPL's witness indicated that the range he had in mind was 42.5 to 47.5 percent. This range compares to the level of 45 to 50 percent recommended by the same witness at the Company's last toll hearing. The decrease in the recommended equity ratio range was based on the opinion that the proportional risks being transferred from the Montreal Extension to the Older System were lower by virtue of the Older System expansion and the continued decline of the Montreal Extension rate base. The witness further suggested that this reduced risk transfer is partially offset by greater Older System business risks and an increased need for financing flexibility.

The Company's other expert witness adopted a common equity ratio of 42.5 percent after taking into account the perceived risks of the Older System, the need to maintain the financial integrity of the Company's pipeline activities and the requested rate of return on equity.

The Canadian Petroleum Association (CPA) recommended a deemed common equity ratio of 37.5 percent. In requesting that the Company's deemed equity ratio be reduced, CPA relied on the advice of its expert witness. The witness' recommendation assumed that deferred income taxes were included in the capital structure. By removing deferred income taxes from the capital structure, his recommended equity ratio became 42.03 percent. This ratio is, in his opinion, directly comparable to the ratios established for regulatory purposes for gas transmission utilities.

Several intervenors, while not presenting expert testimony on this issue, argued that the applied-for equity ratio was too high. In argument, the Minister of Energy for Ontario took the position that the approved equity ratio should be materially lower than the level recommended by CPA's expert witness; the Independent Petroleum Association of Canada (IPAC) supported the level recommended by CPA's witness, asking that the current hardships being faced by the producing sector be taken into account; and the Airlines took the position that the equity ratio could be reduced without affecting the financial strength of the Company.

With respect to business risk, a Company witness took the view that the Older System is currently exposed to greater business risks as compared to late 1983, basing his conclusion primarily on his view that the marketing risks faced by IPL have increased. CPA's witness stated that marketing risk had not, in his opinion, increased appreciably and that investors are no more concerned now than they were in 1984. When asked to comment on the change in the business risk level of IPL since the Company's last toll hearing, this witness took the position that it had not changed meaningfully.

A witness for the Company took the position that the business risks of the Older System continue to be greater than those of major gas pipelines. However, the witness indicated that the business risk differential between the two had narrowed since the time of the Company's last toll hearing as a result of increased risks faced by gas pipelines. CPA's witness agreed that IPL faces greater business risks than the gas pipelines; however, he was not prepared to accept the premise that the risk of gas pipelines had increased since IPL's last toll hearing, or that the risk differential between IPL and the gas pipelines had narrowed.

The issue of whether or not deferred income taxes should remain in IPL's capital structure was also considered. Witnesses for the Company were of the view that the deferred income tax component should be left in the capital structure.

During cross-examination, CPA's witness stated that he preferred removing deferred income taxes from the capital structure. After removing the deferred income taxes from the applied-for capital structure, in order to make IPL more directly comparable to the other companies regulated by the Board, the witness concluded that the effective common equity ratio was 47.63 percent. CPA's witness was of the view that a ratio of this magnitude represented too much compensation, relatively speaking, for the risks borne by IPL's shareholders. He thought that his recommended level, calculated on a similar basis, of approximately 42 percent was more appropriate.

There was some discussion during the hearing as to the possible effect on the Company's bond rating of a reduction in the Older System equity ratio. A witness for the Company stated that there would be a significant possibility that the bond rating would

be reduced, noting that such a downgrade would make financing both more difficult and expensive. CPA argued that it did not necessarily follow that a reduction in the equity ratio must be viewed unfavourably by rating agencies and investors. CPA noted that a reduction in the Older System deemed common equity ratio would not affect IPL's actual common equity ratio. CPA's witness stated that a reduction in the equity ratio of the magnitude he was suggesting would not, in his view, significantly decrease the Company's financing flexibility. He also commented that, while the rating agencies would undoubtedly note the equity ratio reduction, the likelihood of the rating being changed based on that factor alone would be remote.

In relation to the transfer of risk from the Montreal Extension to the Older System, there was considerable discussion concerning the impact of the Deficiency Agreement. One Company witness was of the view that the risks of the Montreal Extension are relevant in the context of determining an appropriate capital structure for the Older System. In his view, the amount of risk transfer had decreased since 1983. CPA's witness took the position that neither the existence, nor the financing, of the Montreal Extension has had an impact on the risks borne by IPL's shareholders. While agreeing that the deficiency payments do not have the formal status of a debt guarantee, the witness expressed the opinion that the difference is one of semantics, not substance.

Decision

The Board agrees that, in order to make a meaningful comparison of IPL's common equity ratio with those of other pipelines under its jurisdiction, deferred income taxes must be removed from IPL's Older System capital structure. However, there were no compelling reasons given to deny IPL's request to include these taxes in its capital structure. In the circumstances of this case, the Board approves the inclusion of deferred income taxes in IPL's Older System capital structure. Further, consistent with its decision in Section 5.3, the Board directs IPL to determine its deferred income tax balance on a 13-point average basis in future toll proceedings.

Based on the evidence put forward in respect of the Company's operations, it does not appear to the Board that Interprovincial faces a significantly different level of business risk than it did at the time of the Company's 1983 toll hearing. In addition, the Board does not consider that any measurable transfer of risk associated with the Montreal Extension exists that would affect the appropriate level of the Older System common equity ratio. In reaching this conclusion the Board was cognizant of two factors: the Deficiency Agreement with the federal government which, while not a debt "guarantee", is unlikely not to be honoured; and the fact that the outstanding debt of the Montreal Extension will be fully retired in nine years. Further, the Board was not persuaded that a reduction in the deemed common equity ratio would adversely impact IPL's credit ratings.

Having reviewed the evidence presented in this case and assessed the risk of IPL's Older System relative to the other pipelines regulated by the NEB, the Board finds the currently approved equity ratio to be higher than warranted. Having considered all of the evidence, the Board has decided that a common equity ratio of 40 percent forms the appropriate level for determining the Older System's overall cost of capital and income tax provision for the test year.

5.5.2 Rate of Return on Common Equity

IPL initially applied for a rate of return on common equity of 14.75 percent. In final argument, the Company amended this rate to 14.5 percent. This request represents a decrease from the currently approved level of 15.25 percent. In requesting a rate of return on equity of 14.5 percent, the Company relied on the advice of its expert witness, who based his recommendation on his consideration of the comparable earnings, discounted cash flow (DCF) and equity risk premium approaches to estimating the cost of common equity capital.

CPA also presented evidence in this regard. CPA's expert witness originally recommended a rate of return on common equity of 12 5/8 to 12 7/8 percent. During cross-examination, the witness focussed on the lower end of this range, taking into account the declines in interest rates and his DCF estimates since the time he prepared his testimony. In determining what he thought to be a fair and reasonable rate of return on equity for IPL's Older System, this witness relied on the results obtained from his DCF and equity risk premium analyses.

IPL's expert witness relied primarily on the results emanating from his comparable earnings analysis. After examining the historical rates of return earned by four samples of high-quality, low-risk unregulated companies, the witness initially concluded that the prospective rate of return on book equity for such companies was in the range of 14.75 to 15 percent. He subsequently adjusted the lower end of this range downward to 14.5 percent as a result of a decline in corporate profit expectations.

Based on his DCF analysis, this witness concluded that the basic cost of equity capital for IPL was in the range of 13 to 13.25 percent. With respect to the use of the equity risk premium approach, he originally concluded that the investors' required rate of return for IPL was in the range of 13.25 to 13.5 percent, assuming an average long-Canada rate of 9.5 percent for the test year. During cross-examination, the witness reduced his average long-Canada forecast to 9 percent, and his investors' required rate of return forecast to a level of 13 to 13.25 percent, the same level resulting from his DCF analysis. Restating this investors' required rate of return range to reflect a market-to-book ratio of 1.1 to 1.2 resulted in a range of 13.6 to 14.5 percent. He was of the view that emphasis should be placed on the upper end of this range given that the current market-to-book ratios for his sample companies are considerably higher than the 1.2 level used in arriving at a rate of return on equity of 14.5 percent.

In recommending a rate of return on equity for IPL's Older System of 14.5 to 15 percent, the Company's expert witness focussed on the lower part of this range in recognition of the comparative risks of the Older System and the high-quality, low-risk industrials included in his samples. In updating his original submission and recommending 14.5 percent, the witness noted that the supplemental oil sales program in Alberta was to terminate in March 1987. He saw this fact as reducing the Company's exposure to forecast risk in the test year, since the probability that actual throughput will decline, due to supplemental sale losses, below the level that is forecast has been lessened.

In arriving at his final recommendation, CPA's expert witness did not use the comparable earnings approach because of concerns relating to the distorting effect of inflation and the possibility that the sample selection process may result in a bias towards firms which have the ability to consistently earn rates of return in excess of competitive rates. In argument, CPA submitted that economic events, in particular the high levels of inflation experienced in the 1970's and early 1980's, have made the rates of return on book equity used in comparable earnings' analyses poor indicators of the competitive returns required to provide fair treatment for utility investors.

In employing the DCF and equity risk premium techniques, CPA's witness originally concluded that the investors' required rate of return results were no more than 12.25 and 11.5 percent, respectively. During cross-examination, this witness noted that his DCF estimate would have been lower by some 15 to 20 basis points if more recent information were to be used. This fact, together with interest rate developments, caused him to focus on the lower end of his original range and recommend a rate of return on equity of 12 5/8 percent. In his analysis, CPA's witness utilized a long-Canada rate of 9 percent, which was consistent with the rate used by IPL's expert witness.

Giving equal weight to the results of his DCF and equity risk premium analyses led CPA's witness to conclude that the investors' required rate of return for IPL was no more than 12 percent. In moving from this basic cost of equity capital to his final recommended rate of 12 5/8 percent, he considered a number of factors, including the likelihood of dilution and his recommended equity ratio level.

CPA submitted that the magnitude of IPL's requested reduction in its approved rate of return on equity was not consistent with actual developments in the capital markets since the Company's last toll hearing. In this regard, CPA stated that long-Canada rates have displayed an essentially uninterrupted downward trend since early 1984. CPA commented that such rates were just below 12 percent in late 1983, rose to almost 14 percent in early 1984 and have moved downward to 9 percent with little interruption. CPA also pointed out that its witness' final recommendation provided a premium of 3 5/8 percentage points over the current and prospective yield on long-Canada's, namely 9 percent. This was contrasted to the premium of 5.5 percentage points implicit in the recommendation made by the Company's expert witness. CPA concluded that this implied premium was unreasonable, given that it was greater than the five percentage point risk premium for the market as a whole considered to be reasonable by its witness, and that

both witnesses placed an investment in IPL's Older System common equity in their lowest investment risk categories.

Decision

The determination of a fair rate of return on common equity was a key issue in this proceeding. Even in the best of circumstances, this finding involves a high degree of subjective judgment in deciding what a typical investor would expect as a fair return for the test year in question. In addition, because of the Company's diversified activities, which include non-pipeline activities and pipeline activities not subject to the jurisdiction of the Board, an imputed capital structure for pipeline assets is employed for regulatory purposes. Therefore, there are no empirical market data which the Board can evaluate with respect to IPL's regulated utility operations. In reaching its decision, the Board must rely on a variety of methodologies, each purporting to simulate the fair return required by a typical investor in the equity of a pure utility.

The variety of methods employed by various experts and the range of recommendations attest to the complexities of this undertaking. Nevertheless, the Board considers all of the input received on this issue to be helpful in reaching its finding.

In considering the positions of the various parties, the Board notes that there were considerable differences of opinion among the expert witnesses regarding the comparable earnings test. While the Company's witness relied primarily on this test, CPA's witness did not use this approach. CPA argued that the existence of higher than current rates of inflation in the early part of the current business cycle will distort the achieved rates of return over this cycle. The Board is of the view that significant changes in the rates of inflation can seriously distort the results of the comparable earnings test. In addition, the extensive reliance on the results of partial business cycles is questionable. For these reasons, the Board has placed less reliance on the results of the comparable earnings test in this proceeding.

The Board notes there was partial agreement in the results of the DCF and risk premium techniques employed by the expert witnesses. In using the DCF technique, there was near consensus on the appropriate dividend yield. The difference in the investors' required return estimates presented by the expert witnesses largely revolved around the necessity to adjust historical growth rates to reflect the current lower levels of expected inflation. Although the Board agrees that an adjustment to reflect declining inflation expectations is warranted, it believes the size of the adjustment cannot be determined with a great deal of accuracy. The Board notes the statements made in argument by IPL and CPA that the investors' required return, in its entirety, tracks inflation, not the growth rate by itself. Accordingly, the Board believes CPA's witness may have overstated the effect of the recent reduction in inflation in adjusting the growth component of the investors' required return because he did not take into account the reduction in the dividend yield that had already taken place.

Under the equity risk premium methodology, witnesses for both IPL and CPA used a 9 percent long-term Canada rate for the test year and supported an overall market equity risk premium of 5 percentage points, but differed on the degree of reduction necessary in the market risk premium to reflect IPL's level of risk. The Board believes that the risks faced by IPL's utility operations at the present time are significantly less than the typical industrial, but lie somewhere above the level implied by CPA's witness who used a beta factor of 0.5.

The Board agrees that a premium is necessary to raise the "bare-bones" return so that IPL can attract new equity without dilution to existing equity. However, the Board does not believe the adjustment should also reflect the high market-to-book ratios currently being experienced by high-grade industrials in the unregulated sector, given the perceived floor on regulated earnings.

Having weighed all of the evidence, and giving particular consideration to the foregoing factors, the decline in interest rate levels since the Company's last toll hearing and the prospect for such rates in the test year, the Board finds 13.25 percent to be a fair rate of return on common equity for IPL's Older System.

5.6 Rate of Return on Rate Base

Decision

Based on its findings in this case, the Board approves for the 1987 test year the capitalization and rate of return on rate base for the Older System shown in Table 5-2.

5.7 Montreal Extension

The Company applied for a rate of return on rate base in respect of the Montreal Extension of 10.66 percent for the 1987 test year as compared to the existing approved rate of 10.33 percent. The applied-for capital structure, corresponding individual cost rates and overall requested rate of return are shown in Table 5-3.

Table 5-2
Approved Deemed Average Capital Structure
and Rates of Return for the Test Year
Older System

	Amount ($000)	Capital Structure (%)	Cost Rate (%)	Cost Component[1] (%)
Debt – Funded	226,251	†	10.47	†
– Unfunded	†	†	10.00	†
Total Debt Capital	†	†		†
Deferred Income Taxes	†	†	–	–
Common Equity	†	*40.00*	*13.25*	5.30
Total Capitalization[2]	†	100.00		
Rate of Return on Rate Base				†

† Figure to be supplied by the Company.

1 Figures to be rounded to two decimal places.

2 Total Capitalization = Older System average rate base (Table 3-1) plus average CWIP.

Table 5-3
Applied-For Average Capital Structure
and Rates of Return for the Test Year
Montreal Extension

	Amount ($000)	Capital Structure (%)	Cost Rate (%)	Cost Component (%)
Debt – Funded	118,764	98.31	10.81	10.63
– Other	366	.30	10.00	.03
Total Debt Capital	119,130	98.61		10.66
Deferred Income Taxes	1,675	1.39	–	–
Total Capitalization	120,805	100.00		
Rate of Return on Rate Base				10.66

The component of the capital structure labeled "other debt" relates to funds for future capital additions to the Montreal Extension. These funds are permitted to earn the lesser of the approved rate of return on equity for IPL's Older System or the rate at which IPL could issue debentures when no funds are actually borrowed. This conforms to the provisions of an amendment to the Deficiency Agreement between IPL and the Minister of Energy, Mines and Resources which came into effect 1 January 1985. The Company requested that this debt be costed at a rate of 10 percent, the same rate as for its unfunded debt balance.

Decision

The Board approves an embedded cost rate for long-term debt of 10.81 percent. Also, consistent with its decision in Section 5.4, the Board approves a cost rate of 10 percent for the other debt attributable to the Montreal Extension. The approved capitalization and rate of return on rate base are shown in Table 5-4.

5.8 Income Taxes

5.8.1 Methodology (Flow-Through versus Normalized)

The issue of whether IPL should continue to use the normalized method in calculating its income tax provision was examined during the hearing. IPL presented evidence on this matter and requested that it be authorized to continue to use the normalized method. The theoretical concepts, practical implications and the relative merits of the normalized and flow-through methods were examined. In argument, CPA supported IPL's request. Also, the Board notes that evidence presented indicates that cross-over is likely to occur in the short term based on IPL's current forecast of capital additions.

Decision

Based on the circumstances of this case, particularly the proximity to cross-over, the Board has decided not to alter, at this late stage, the methodology for determining the income tax provision. Accordingly, the Board accepts the Company's proposal to calculate its test-year income tax provision using the normalized method.

5.8.2 Income Tax Rate

IPL employed an overall income tax rate of 50.955 percent in computing its normalized income tax provision and current deferred income taxes for the test period. This rate is comprised of a federal corporate tax rate of 35.496 percent, a federal corporate surtax rate of 1.065 percent and a composite provincial tax rate of 14.394 percent.

Table 5-4
Approved Average Capital Structure and Rates of Return for the Test Year
Montreal Extension

	Amount ($000)	Capital Structure (%)	Cost Rate (%)	Cost Component[1] (%)
Debt – Funded	118,764	†	10.81	†
– Other	366	†	10.00	†
Total Debt Capital	119,130	†		†
Deferred Income Taxes	†	†	–	–
Total Capitalization	†	†		
Rate of Return on Rate Base				†

† Figure to be supplied by the Company.

1 Figures to be rounded to two decimal places.

The Province of Alberta tabled a budget on 20 March 1987 in which it proposed to increase the provincial corporate income tax rate from 11 to 15 percent. The new rate, which became effective on 1 April 1987, would increase the composite provincial income tax rate to 15.448 percent and the overall income tax rate to 52.009 percent.

Decision

The Board has decided to take into account the proposed change in the Alberta corporate tax rate in determining IPL's overall corporate income tax rate. Accordingly, the Board approves an overall corporate income tax rate of 52.009 percent for the test period.

5.8.3 Test-Year Income Tax Calculation

Decision

As noted in Section 5.8.1, the Board accepts the Company's proposal to calculate its test-year income tax provision using the normalized method.

The Company shall calculate its provision for income taxes, current provision for deferred income taxes and income taxes payable for the test period as outlined in Table 5-5 (see pages 21 and 22).

Table 5-5
Provision for Income Taxes and Deferred Income Taxes
($000)

Provision for Income Taxes - Older System	**Application**	**NEB Approved**
Rate Base	479,313	†
Return	53,156	†
Less: Return Related to Interest	23,103	†
Return Related to Equity	30,053	†
Adjustments for Permanent Differences		
Depreciation of Land Rights	273	273
Depreciation of Allowance for Equity Funds Used During Construction (AEDC)	447	† [1]
Amortization of Debt Discount and Issue Expense on Long-Term Debt – Series B-F	117	117
Other Non-Deductible Items	20	20
Taxable Gain on Debt Reacquired	66	66
Accounting Capital Gain	(132)	(132)
Income Tax Base	30,844	†
Provision for Income Taxes = Income Tax Base X .50955/[1-.50955][2]	32,045	†

† Figure to be supplied by the Company.

1 To reflect the Board Decisions in Sections 3.2, 3.3 and 4.1.

2 The approved provision for income taxes and current provision for deferred income taxes are to be calculated using the approved overall corporate tax rate of 52.009 percent (see Section 5.8.2).

Table 5-5 (continued)
Provision for Income Taxes and Deferred Income Taxes
($000)

	Application	NEB Approved
Current Provision for Deferred Income Taxes		
Estimated Depreciation	37,028	† [1]
Depreciation of Land Rights	(273)	(273)
Depreciation of AEDC	(447)	† [1]
Amortization of Hearing Costs	120	180 [3]
Amortization of Debt Discount and Issue Expense on Long-Term Debt		
– Series B-F	117	117
– Series G	127	127
– Series H	–	73 [4]
Capitalized General and Administrative Overhead	(2,185)	(2,185)
Capital Cost Allowance	(47,869)	† [5]
Allowance for Interest During Construction	(5,675)	† [6]
Other	(264)	– [7]
Net Timing Differences	(19,321)	†
Current Provision for Deferred Income Taxes at .50955 [2]	(9,845)	†

† Figure to be supplied by the Company.

1 To reflect the Board Decisions in Sections 3.2, 3.3 and 4.1.

2 The approved provision for income taxes and current provision for deferred income taxes are to be calculated using the approved overall corporate tax rate of 52.009 percent (see Section 5.8.2).

3 To reflect the Board Decision in Section 6.2.6.

4 As revised by the Applicant in Exhibit B-53.

5 To reflect the Board Decision in Section 3.2.

6 To reflect the Board Decisions in Sections 3.2 and 3.3.

7 To reflect the Board Decision in Section 5.2.

Chapter 6
Operating Costs

6.1 Introduction

Interprovincial used 1985 as a base year and adjusted its actual expenses in that year for known and anticipated changes in the test year. Where appropriate, the Company used a compound inflation factor of 7.6 percent to reflect inflation factors of 3.6 percent for 1986 and 3.9 percent for 1987.

6.2 Operating Expenses

Table 6-1 is a summary of operating expenses comparing amounts in the application to Board-approved amounts. The amounts shown as adjustments incorporate revisions made both by Interprovincial and the Board. These adjustments are explained in succeeding sections of this chapter.

Generally, intervenors provided limited comment on Interprovincial's cost estimates. In argument, however, IPAC suggested that a management consultant be commissioned to assess the cost effectiveness of Interprovincial's regulated activities and, further, that Interprovincial file with the Board a detailed procedural manual for its operating audit department.

Decision

With the exception of the items discussed below, the Board is satisfied with Interprovincial's cost estimates, and does not believe that a cost effectiveness study is warranted at this time. On the matter of the filing of a detailed audit manual with the Board, the Board notes that Interprovincial filed, as an exhibit to the hearing, its Corporate Policy Statement on Internal Auditing. The Board does not consider it necessary at this time that a detailed auditing procedures manual be filed with it.

6.2.1 Salaries

The examination of test-year salaries focussed upon changes in the number of employees and the applied-for escalation factor.

6.2.1.1 Number of Employees

IPL's estimate of the total system salaries expense of $28.75 million for the 1987 test year reflects a projected staff complement of 634 permanent and 30 temporary person-years. IPL assumed that the vacancy rate in 1987, as in the past three years, will be negligible. The evidence indicates that, excluding the person-years transferred-out to IPL(NW), Lakehead, the Corporate Planning Group and capital projects, a net total of 456 permanent person-years is reflected in the utility cost of service. By comparison, permanent person-years charged to utility operations was 341 in 1986 and 362 in 1985. Also, estimated capitalized person-years decreased to 50 in 1987 from 140 in 1986 and 83 in 1985. IPL contended that the person-years no longer charged to capital projects were required for the utility operation in the test year. The Company disagreed that the operation and maintenance of the expanded facilities could be carried out with fewer than the applied-for 456 person-years for the test year.

IPL explained that the lower number of person-years for the utility operation in 1985 and 1986 was a consequence of the Company extensively using its in-house staff to work on capital projects while deferring discretionary maintenance work and using outside consultants, contractors or temporary employees only where necessary. In addition, paid or unpaid overtime worked by in-house staff was not reflected in the operating and maintenance person-years. IPL provided justification for each staff position added since 1 January 1985 and contended that in order to provide safe, efficient and effective service, staff levels as requested for 1987 are required. Also, the Company stated that personnel at that level or higher will be required in the longer run. Although the 1988 construction program was not then known, IPL indicated that six construction-related positions might not be required beyond the test year.

Table 6-1
Operating Expenses
($000)

Older System	Application	Adjustments	NEB Approved
Salaries and Wages	26,758	120 [1]	26,878
Operating Fuel and Power Costs	48,740	† [2]	†
Materials and Supplies	3,839	–	3,839
Outside Services	8,535	–	8,535
Other Expenses	5,669	† [3]	†
Amortization of Toll Hearing Costs	120	60 [4]	180
Oil Loss	2,921	† [5]	†
Law Expenses	245	–	245
Rent	4,344	(40) [6]	4,304
Employee Benefits	5,076	(120) [7]	4,956
Insurance	1,306	–	1,306
Taxes Other Than Income Taxes	11,764	300 [8]	12,064
Miscellaneous	–	312 [9]	312
Total	119,317	†	†
Montreal Extension			
Salaries and Wages	1,992	9 [1]	2,001
Operating Fuel and Power Costs	815	† [2]	†
Materials and Supplies	266	–	266
Outside Services	766	–	766
Other Expenses	459	† [3]	†
Oil Loss	253	† [5]	†
Law Expenses	25	–	25
Rent	363	–	363
Employee Benefits	378	(9) [7]	369
Insurance	393	–	393
Taxes Other Than Income Taxes	4,386	–	4,386
Miscellaneous	–	115 [9]	115
Total	10,096	†	†
Total System	129,413	†	†

† Figure to be supplied by the Company.

1 The Board increased salaries and wages by an amount of $129,000 for severance payments (see Section 6.2.3).

2 The Company reduced its estimate of operating fuel and power expense by $501,000 as a result of lower than expected power rates. The Company is required to recalculate its estimate of fuel and power expense to reflect the approved throughput forecast (see Section 6.2.4).

3 The Board reduced other expenses to reflect disallowance of the accrual of dividend equivalent rights of $330,000 (see Section 6.2.9.1).

4 The Board adjusted the amortization of hearing costs in conformity with its decision in Section 6.2.6.

5 As directed in Section 6.2.7, Interprovincial is to provide a revised oil loss expense based on approved throughputs and an $18 U.S. per barrel benchmark price for crude.

6 The Board reduced rent expense to remove amounts recovered by subletting the former Toronto office (see Section 6.2.8).

7 The Board decreased employee benefits by an amount of $129,000 for severance payments (see Section 6.2.2).

8 Taxes other than income taxes were increased $250,000 by IPL and a further $50,000 by the Board (see Section 6.2.10).

9 Interprovincial increased operating expenses by $427,000 because of its fillet weld examination program. The specific operating cost accounts affected were not identified. When this table is completed by the Applicant, this amount is to assigned to the appropriate operating expense accounts.

Decision

In its review of the Company's projected person-year utilization for the test year, the Board finds no compelling reason to reduce the applied-for salaries and wages to reflect a lower than applied-for number of employees.

6.2.1.2 Test-Year Salaries Escalation Factor

In projecting the test-year salaries expense, IPL provided for an overall 3.5 percent increase in salaries above 1986 salary levels. IPL stated that all of its employees are salaried and are covered by the same benefit plan. IPL provided a summary of the Pay Research Bureau's AUTOCODS survey data and demonstrated that for comparable positions the Applicant's average salaries were within the range of rates paid by companies in the Applicant's industry category. It stated that the 3.5 percent salary increase for the test year was lower than the anticipated rate of inflation, lower than average wage-rate settlements within the transportation and communications sectors, and lower than that of other utilities as reported for the third quarter of 1986. IPL also indicated the proposed increase was in line with, if not lower than, the principal union agreement in the petroleum industry for 1987.

Decision

The Board, having considered the forecast economic conditions, recent salary settlements, and other information available to it, approves the 3.5 percent increase in salaries for the test year. Therefore, the Board approves the applied-for salaries expense of $28,750,000. In addition, to reflect the Board's decision to include severance pay as a component of salaries expense, the test-year salaries expense is adjusted to $28,879,000 (see Section 6.2.3).

6.2.2 Employee Benefits

As in previous applications, IPL proposed an allowance for employee benefits expense in the test year using a five-year average methodology; that is, providing for benefits in the test year at the same average percentage rate of salaries as experienced during the previous five complete calendar years. The employee benefits expense of $5,454,000 for 1987 was determined by multiplying the gross payroll of $28,750,000 by 18.97 percent, which represents the total actual benefits for 1981 to 1985 expressed as a percentage of the total gross payroll for the five-year period. The Board notes that the calculation of the five-year average rate includes severance pay as an element of benefits.

IPL stated that, as required by the Board in its February 1984 IPL Reasons for Decision, the Company had reviewed the five-year average methodology and concluded that the methodology remains appropriate. IPL stated that forecasting each element of employee benefits expense involves many subjective calculations and certain benefits could be very volatile and difficult to forecast. A five-year average avoids any controversy as to the basis of the forecasts, provides a smooth year-to-year variation and ensures that there is no over-recovery or under-recovery of employee benefits in the long run. A Company witness stated that the Company was to some degree bound to continue with the same methodology even though, because of the recent changes in the cost of benefit plans (e.g. the retirement plan), the five-year average methodology would result in a substantial shortfall in the test-year revenue requirement.

Decision

The Board agrees that the five-year average methodology avoids forecasting errors and, if used on a consistent basis, would not result in the over-recovery or under-recovery of employee benefits. Excluding severance pay, the Board approves the use of the five-year average methodology, as proposed by IPL, for estimating an allowance for employee benefits for the test year. The provision for severance pay is considered in the next section. As a result of excluding severance pay, the five-year average rate is reduced to 18.52 percent. Accordingly, the test-year allowance for employee benefits is reduced by $129,000 to $5,325,000.

6.2.3 Severance Pay

The evidence indicates that the allowance for severance pay reflected in the test-year cost of service is based on the five-year (1981 to 1985) average ratio of severance pay to payroll costs. IPL contends that the five-year average methodology to determine the severance pay allowance is appropriate because severance payments vary widely from one year to another and it is difficult to forecast this item. The evidence indicates that severance

payments were zero for 1981 and 1983, but totalled $260,000 in 1982, $20,000 in 1984 and $135,000 in 1985.

A witness for IPL stated that severance payments in 1986 amounted to $535,000. While the witness did not provide a specific estimate for 1987, he said that severance pay in 1987 could be substantial. Cross-examination revealed that the high level of severance payments in 1986 was largely attributable to the termination of a senior officer as a consequence of a corporate reorganization following the acquisition of Home Oil. With respect to 1987, given the Company's plans to move its executive offices to Calgary from Toronto and other operating staff to Edmonton, the witness stated that, if certain employees chose not to move, there could be a substantial increase in IPL's severance payments.

Decision

The Board accepts the use of the five-year average methodology to determine the severance pay allowance. Consequently, for the 1987 test year the Board approves the requested allowance of $129,000 determined on the basis of the 1981 to 1985 severance payments. However, because the Board is of the view that severance pay is not an employee benefit, the severance pay allowance is included as a component of the test-year salaries expense (see Section 6.2.1.2).

In future test years, notwithstanding the foregoing, the inclusion of any new amount in the five-year average calculation will not be automatic. The Board will review the amount of and the circumstances leading to severance payments before rendering its decision on the matter. In assessing whether a severance payment will be approved for inclusion in the five-year average calculation, the Board will consider, inter alia, whether the termination was caused by non-utility activity.

6.2.4 Operating Fuel and Power Costs

During the hearing, Interprovincial reduced its estimate of operating fuel and power costs by $501,000 to $49,054,000 as a result of lower than expected power rates in Alberta. The Company subsequently filed a revised throughput forecast but not a revised estimate of its fuel and power expense.

IPAC initially questioned the accuracy of Interprovincial's fuel and power cost estimates and suggested that a deferral account be used to record the difference between actual and forecast expense. Interprovincial responded with assurances as to the reliability of its estimates. At the conclusion of the hearing, IPAC provided a qualified endorsement of Interprovincial's cost of service estimates.

Decision

The Board is satisfied with the reliability of Interprovincial's fuel and power estimates. At this time variations in actual expense from amounts forecast do not warrant the establishment of a separate deferral account as suggested by IPAC. In view of revisions to the throughput forecast, the Board requires Interprovincial to recalculate its estimate of fuel and power expense based upon the approved throughput forecast and directs Interprovincial to adjust its revenue requirement accordingly.

6.2.5 Materials and Supplies

Included in the test-year estimate of $4,105,000 for materials and supplies expense was an amount of $50,000 for work deferred from the previous year. In response to a query as to whether the Company was double-charging with respect to this item, a Company witness replied that this item constituted a source of variance which would be comparable to unexpected projects for which it had not budgeted. It was expected that in normal circumstances items of this nature would offset each other over time.

Decision

The Board is satisfied with the explanation provided by Interprovincial and accepts its estimate for this expense.

6.2.6 Toll Hearing Costs

In the application, Interprovincial estimated its toll hearing costs at $360,000. It proposed amortizing these over three years and including the average unamortized balance in working capital. A Company witness stated that this estimate was likely low. However, he assumed that the Board would allow the recovery of $120,000 in the test year and the recovery of the remaining balance of actu-

al hearing costs, which are expected to exceed the original estimate, over the subsequent two years.

Decision

Since the recovery of hearing costs is at the expense of the Company's shippers, it is incumbent upon the Applicant to demonstrate the reasonableness of its costs during the hearing process. The Board is not persuaded that the escalation of these costs beyond $360,000 has been justified, and therefore, has decided to limit the recovery of these costs to $360,000, in conformity with the Company's original estimate. In view of the exclusion of the average unamortized balance of these costs from working capital (see Section 3.4.3), the Board finds that an amortization period of two years, rather than three years, is appropriate. Therefore, $180,000 is included in the test-year cost of service for the amortization of toll hearing costs.

6.2.7 Oil Loss

Interprovincial projects an oil loss ratio of 0.06 percent of receipt volumes based upon its five-year average of losses (1981-85). The Company used a benchmark price of $15 U.S. per barrel (bbl) for West Texas crude at Chicago to value its oil loss volumes at $3,174,000 for the test year. At the hearing, the Company's witness proposed that the amount for oil losses be increased proportionately to reflect an expected price of $18 U.S. per bbl for West Texas crude. In addition, the Company revised its throughput forecast but did not adjust its estimate of oil loss expense.

In argument, IPAC voiced its concern with regard to prices used in the oil loss calculation. IPAC contended that Interprovincial should base its prices on an annual forecast, rather than on near-term fluctuations.

Decision

The Board is satisfied with the oil loss ratio calculated by Interprovincial. However, in view of the revised throughput forecast, a new calculation of volumetric losses should be made. With regard to crude values, the Board accepts the Company's proposal to revise its calculation of oil values based upon $18 U.S. per bbl for West Texas crude. In summary, the Board directs Interprovincial to recalculate its oil loss expense to reflect the approved throughput forecast and the adjusted crude values. In addition, the Board directs Interprovincial to recalculate its revenue requirement to reflect this decision.

6.2.8 Rent

Interprovincial proposed a rent expense of $4,707,000 for the test year. This compares to $3,315,000 approved for 1986. The Company explained that this increase resulted from higher rent costs and the relocation of its Toronto office within that city.

A large portion of the difference resulted from a 39 percent increase effective 1 February 1987 in the rate for the Edmonton office. This increase arises from the terms of a 15-year lease signed in 1981 for the IPL Tower. In 1985 Interprovincial acquired complete ownership of the IPL Tower. Evidence at the hearing indicated that the 1981 lease was negotiated before Interprovincial had any ownership in the building.

In 1986, the Company moved from one office to another in Toronto. This move was precipitated by greater space requirements. For part of the test year, Interprovincial was forecast to incur rent for two premises at Toronto, pending the expiry of the initial lease. During cross-examination, a Company witness acknowledged that, because the former Toronto offices had now been sublet, $40,000 could be deducted from the cost of service.

During the hearing Interprovincial announced plans to close its recently leased Toronto office by mid-1987. The Company advised that its head office would be relocated to Calgary, while pipeline staff formerly located in Toronto would be relocated to Edmonton. The Company's witnesses indicated that owing to this decision having been taken so recently, the particulars of the move were unknown and no provision had been made for it in the cost of service. The witnesses contended that any savings in the test year attributable to lower rents in the west would be offset by the associated relocation costs.

Decision

The Board believes that any revenue to be received from the subletting of the original Toronto office should be considered as an offset to the estimated test-year rent ex-

pense. Therefore, the Board directs Interprovincial to reduce rent expense by $40,000 and revise its revenue requirement accordingly.

On the matter of the closing of the new Toronto office and the relocation of staff to Calgary and Edmonton, the Board believes that some rental savings may result. However, due to the uncertainty regarding the timing of the move and other unknowns, such as the variance in rent expense, no reduction in rent expense is being ordered by the Board. A contributing factor to the Board's acquiescence on this matter is the acknowledgement that relocation costs to Calgary and Edmonton were not included in the test-year cost of service estimates.

6.2.9 Other Expenses

The examination of other expenses concerned costs associated with the Company's stock option plan and charitable donations.

6.2.9.1 Stock Option Plan

Interprovincial included $330,000 in other expenses as an accrual of costs associated with the dividend equivalent rights feature of its incentive stock option plan. At the discretion of the Company's Board of Directors, key employees are offered stock options. The dividend equivalent rights is a new feature of the plan. These rights allow accumulation in an account maintained for its holder of amounts equal to dividends declared on the number of shares available under the underlying option. The cost of this item is shared between Interprovincial, Lakehead and IPL(NW).

Another feature of the incentive stock option plan, the stock appreciation rights, was also examined during the hearing. This feature permits the holder to surrender all or part of the underlying unexercised options and receive in exchange the amount by which the fair market value of the shares covered by the surrendered options exceeds the option exercise price. The Company's witness indicated that these rights had not been exercised at this point, but acknowledged that if they were exercised, the payments made by the Company would be charged to the cost of service. The test-year cost of service does not include any costs associated with stock appreciation rights.

Decision

The Board views incentives such as dividend equivalent rights and stock appreciation rights as a form of executive compensation. Therefore, it directs that, in future, if such costs are forecast for inclusion in the cost of service, they be considered as part of salaries and wages and be appropriately disclosed. A decision on the inclusion of such costs in the cost of service could then be rendered based on an assessment of an appropriate level of compensation for executive staff at the time.

Regarding the inclusion of $330,000 in the test-year cost of service for dividend equivalent rights, the Board has decided to disallow this amount. The Board believes that these costs are over and above what is required to recruit and retain executive staff at this time, particularly given the economic situation in the province of Alberta and in the petroleum industry in general.

Accordingly, Interprovincial is directed to reduce its operating expenses by $330,000 and to revise its revenue requirement to reflect this decision.

6.2.9.2 Charitable Donations

The estimate of other expenses included $551,000 for charitable donations. This reflected contributions to various charitable organizations located in communities along the pipeline route. Interprovincial contended that such contributions represented an accepted cost of doing business and the fulfillment of its responsibility as a good corporate citizen. Further, Interprovincial asserted that, over time, many of these charities had become very dependent on its annual contributions.

In argument, IPAC recommended that shareholders rather than shippers bear the costs of these donations.

Decision

The Board finds, based on information before it at the hearing, the amounts budgeted for charitable donations to be reasonable and accepts the inclusion of these amounts in the test-year cost of service. However, in recognition of the fact that inclusion of charitable donations in the cost of service results in these costs being paid by shippers, the Board requires Interprovincial to file, as

part of its next Class 2 or 3 toll adjustment application, a description of its policy and budgeting procedure with respect to charitable donations.

6.2.10 Taxes Other Than Income Taxes

In its application, Interprovincial estimated its taxes other than income taxes at $16,150,000 for the test year. During the hearing, Interprovincial increased this estimate by $250,000 as a result of increased provincial tax assessments used to compute property taxes.

Subsequent to the close of the hearing, the Government of Manitoba tabled a budget dated 16 March 1987. One element of this budget was to increase the capital tax rate from three-tenths to five-tenths of one percent effective 1 July 1987.

Decision

The Board has decided that the Company's revised estimate of this expense should be adjusted to reflect the Manitoba tax increase. Consequently, the Board has increased the estimate of taxes other than income taxes by a further $50,000.

6.3 Allocation of Costs to Other Activities

During the hearing, the issue of the allocation of costs to Interprovincial's other activities was examined. For Lakehead, IPL(NW) and Home Oil, Interprovincial assigned costs using a shared-cost approach. For other activities, Interprovincial assigned only those costs which were incremental to the pipeline cost base. In Interprovincial's view such activities were not significant enough to merit application of a shared-cost method.

In argument, IPAC suggested that Interprovincial develop a procedural manual for transactions with its affiliates on an arm's length basis and further that the Board conduct an independent cost allocation study. After reviewing the evidence, the Board is satisfied that it has sufficient information to deal with these matters at this time.

6.3.1 Lakehead

In the application, Interprovincial estimated a charge to Lakehead of $8.1 million for administrative services. Although Interprovincial charged Lakehead a portion of the depreciation and amortization for computer equipment and leasehold improvements, it made no similar allocation of the related return and income taxes on these assets. Interprovincial calculated that an allocation of these costs to Lakehead on a basis consistent with the allocation of depreciation and amortization would result in an additional charge of $635,000 to Lakehead.

In addition, Interprovincial indicated that there was no allocation of any costs related to office furniture and equipment to Lakehead. The Company contended that as a practical matter it was difficult to track the specifics of such items.

Decision

The Board has determined that a proper application of the shared-cost principle to Lakehead requires the sharing of costs of assets used to provide administrative services. Therefore, the Board requires Interprovincial to deduct from the cost of service a portion of the depreciation and amortization, return and income taxes on assets used to provide service to Lakehead.

For computer equipment and leasehold improvements, the Board requires the Company to adjust its estimate of $635,000 for allocable return and income taxes to reflect the decisions taken by the Board as set out in these Reasons. In addition, the Board directs the Company to reduce its revenue requirement accordingly.

For office furniture and equipment, the Board has determined that an appropriate allocation of related depreciation, return and income taxes would be in proportion to the number of person-years transferred to Lakehead (82) over the total Interprovincial employees (664), or 12.3 percent for the test year. Therefore, the Board requires Interprovincial to reduce its revenue requirement by an amount determined by applying an allocation factor of 12.3 percent to the depreciation, return and income taxes associated with office furniture and equipment.

6.3.2 IPL(NW)

Interprovincial calculated a charge to IPL(NW) of $2.5 million of which $835,000 pertained to the general fee chargeable to IPL(NW) under the management agreement between it and Interprovin-

cial. The balance was made up of direct charges to IPL(NW). No charge was assessed for special services available under the agreement. Interprovincial explained that in the event such services were required, a special services fee would be assessed. The Company's witnesses did not consider it appropriate to assess a fee to IPL(NW) for standby services.

Interprovincial advised that use of its aircraft by IPL(NW) would be charged as a special service. Although the aircraft had made several trips to Norman Wells during 1985 and 1986, no such fee had ever been assessed, because Interprovincial considered that no exclusive use by IPL(NW) was involved.

Decision

The Board finds that it is appropriate to charge IPL(NW) a fee for standby services available to it in recognition of the fact that Interprovincial must provide these services from time to time pursuant to the management agreement. The Board considers that a reasonable charge would be 10 percent of the general fee or $84,000 for the test year.

With regard to the aircraft, given the history of usage and the continued availability of the aircraft to IPL(NW), the Board has decided that a fee equal to five percent of the costs of operating and maintenance, depreciation, return and income taxes for the aircraft should also be charged.

The Board intends to re-examine these fees in light of actual experience at a future date. In the meantime, the Board directs Interprovincial to reduce its revenue requirement by the $84,000 standby fee and Interprovincial's share of the five percent allocation of aircraft costs to IPL(NW). The remaining share of this allocation will reduce the amount otherwise allocable to Lakehead.

6.3.3 Home Oil

In late 1986, Interprovincial acquired ownership of Home Oil. During the hearing, Interprovincial announced its intention to implement a corporate reorganization to concentrate pipeline operations in Edmonton and senior management functions in Calgary. For the test year, Interprovincial allocated $1.4 million in costs to Home Oil. This was calculated for the most part by assigning approximately one-third of allocable costs to Home Oil. One omission, however, was that none of the $93,000 for directors' and officers' liability insurance had been charged to Home Oil.

Decision

The Board requires that one-third of the costs of directors' and officers' liability insurance be allocated to non-utility operations and that Interprovincial's share be deducted from the cost of service. The Board directs that the revenue requirement be adjusted to reflect this decision.

Owing to the recent nature of the acquisition of Home Oil, the relationship between it and Interprovincial is unclear. At a future hearing, the Board intends to examine whether it would be appropriate to assess further charges, including retaining fees for non-utility operations to reflect IPL's relationship with Home Oil. In the meantime, the Board is reasonably satisfied with Interprovincial's efforts to exclude the costs of this activity from its pipeline operations.

6.3.4 Other Non-Pipeline Activities

Interprovincial allocates only incremental costs to its other non-pipeline activities. These activities include the IPL Tower, IPL(Alberta) Ltd. and the management of short-term investments. The IPL Tower is the Company's Edmonton office building of which it became the sole owner in 1985; IPL(Alberta) Ltd. is a passive entity which financed the IPL Tower; and Interprovincial invests excess capital funds in short-term investments for the benefit of shareholders. Interprovincial maintained that these activities require negligible management time and do not increase the cost of service.

Decision

The Board is satisfied that these activities will not materially affect the cost of service in the test year. Therefore, the Board accepts Interprovincial's proposed allocation of costs to these activities.

6.3.5 Capital Stock Administration

Capital stock administration expense is estimated at $278,000. Interprovincial proposed to discontinue allocation of a portion of this expense to its other activities. It maintained that all its shares, with

the exception of one share certificate associated with the 1983 share swap with Hiram Walker Resources, were issued for utility purposes. In the Applicant's view, since stock administration fees are assessed on the basis of the number of shareholders, rather than the number of shares issued, the share certificate associated with the swap represented almost zero incremental cost. Interprovincial asserted that the regulated entity should bear all these costs.

Decision

The Board considers it reasonable to share this expense among all activities. Therefore, the Board directs Interprovincial to continue to allocate its capital stock administration expense using the existing formula[1], updated for base-year amounts and the approved 40 percent common equity ratio for the Older System. Thus, 16.63 percent or $46,000 of this expense is allocable to Interprovincial and the balance to other activities. Therefore, the Board directs Interprovincial to reduce its other income deductions by $232,000 and to revise its revenue requirement accordingly.

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1 NEB Formula:

(40% X $261,818,000) / $629,721,000

40% is the approved Older System common equity ratio; $261,818,000 is the 1985 Older System actual rate base; and $629,721,000 is the 1985 average shareholders' equity for Interprovincial as a corporation.

Chapter 7
Throughput

The Applicant initially submitted a throughput forecast of 206 800 m^3/d. During the hearing, the Applicant revised the forecast to 205 400 m^3/d to reflect a delay in the in-service date of the facilities being constructed under Phase II of the Applicant's expansion program.

In its forecast, the Applicant relied on the following major assumptions:

1. access to the pipeline would be restricted in the first quarter and to a lesser extent in the second;

2. there would be increased heavy oil production and deliveries;

3. there would be lower light crude oil production based on a U.S. $15/bbl oil price;

4. exports to the U.S. midwest would be maintained, but with a greater proportion of heavy crude than in the base year; and

5. no exports to U.S. west coast markets would occur in the test year.

The Airlines was the only intervenor who questioned the Applicant on its forecast. The questions focused on supply assumptions and pipeline capacity estimates.

The Board questioned the Applicant on the assumptions used to develop the synthetic supply projections with particular emphasis on the five-year average for plant production.

Decision

The Board approves the revised throughput forecast of 205 400 m^3/d for the test year, and the breakdown of deliveries included therein, as filed by IPL during the hearing.

Chapter 8
Toll Design

8.1 Introduction

Generally speaking the toll design phase of the hearing centred on three major issues, two of which arose as a result of IPL embarking on specific projects to increase the utilization of its facilities and the third which arose from the Board's desire to examine the continued appropriateness of IPL's existing toll methodology. These matters are as follows:

1. toll methodology for IPL's proposed propane service from Sarnia to Millgrove;
2. toll methodology for the potential conversion of the Montreal Extension to accommodate NGL service; and
3. capacity surcharges for heavy and medium crudes.

All three matters were the subject of extensive discussion throughout the course of the hearing.

For each of these issues, parties to the proceeding took a variety of positions, many of which were irreconcilable. Nevertheless, each party argued that the adoption of its position would yield just and reasonable tolls.

The complexity of the issues and the conflicting positions advocated by the various parties confirm that, when dealing with toll design, the Board must be aware of and attempt to apply consistently the principles which it views as resulting in just and reasonable tolls. A toll design methodology should also be able to withstand the test of a range of cost and throughput scenarios to ensure that it consistently yields reasonable results. The Board also recognizes nonetheless that a toll design decision cannot be static, when the environment is constantly changing. On the other hand, the Board is of the view that it is not appropriate to develop a toll design on an ad hoc basis, which will not withstand an application of the criteria discussed above.

Another aspect of toll design which led to a great deal of discussion during the hearing was the matter of discrimination. Intervenors accepted that tolls should not result in unjust discrimination. The Board notes that, pursuant to Section 55 of the Act, a company shall not make any unjust discrimination in tolls against any persons. Therefore, discrimination to the extent that it is justified is permitted within the scope of the Act. However, Section 56 of the Act clearly puts the onus on the applicant to demonstrate that where any discrimination exists, it is not unjust. This concept ties in with other aspects of Part IV of the Act and more particularly with Section 52, which requires that:

> *"All tolls shall be just and reasonable, and shall always, under substantially similar circumstances with respect to all traffic of the same description carried over the same route, be charged equally to all persons at the same rate."*

Thus, the Board can set different tolls for traffic of different descriptions; for traffic of similar description but which is carried over different routes; as well as for traffic which flows under substantially different circumstances, all without offending the prohibition against unjust discrimination. Whether or not any such criteria exist in a given case is a matter of judgment for the Board to decide based on the evidence before it.

Considerable discussion took place during the hearing concerning the various factors which the Board should consider in its deliberation of toll methodologies designed to achieve just and reasonable tolls. Some parties characterized all of these considerations as principles, while others attempted to divide them into various categories, such as principles and objectives. The Board is cognizant of this latter distinction to the extent that a principle is something from which one should not easily be diverted, while an objective, although desirable, should not be accommodated at the expense of compromising overriding principles.

The Board views considerations such as simplicity and stability as desirable objectives, but not as factors which should be the foundation upon which a toll design methodology is established.

All parties seemed to agree that an overriding consideration in the establishment of just and reasonable tolls is the concept of fairness. However, each proponent of a position submitted that this goal would be achieved through the implementation of its particular recommendations. The Board is of the view that what is seen as fair or unfair from the position of any given party may be largely dependent upon the interests peculiar to that party. The Board believes that as long as tolls can be said to be just and reasonable and not unjustly discriminatory, from the perspective of the Board, the test of fairness has been met.

A principle which the Board has attempted to apply in the development of the appropriate toll design methodology for IPL is that the resultant tolls should be, to the greatest extent possible, cost-based. In other words, generally speaking the concept of "user-pay" should be applied. The Board recognizes that due to such things as practical considerations and limitations on cost allocation procedures, no toll in practice will be absolutely cost-based, in the sense that it will precisely and completely reflect all expenditures related to a particular service over a precise distance. However, designing IPL's tolls to be as cost-based as practicable should yield the result that the users of the system bear the financial responsibilities for the costs caused by the transportation of their particular hydrocarbon through the line. As well, the Board is of the view that all reasonable efforts should be made to minimize cross-subsidization. If these objectives are attained the resultant tolls can reasonably be characterized as cost-based.

Cost-based tolls can be distinguished from cost-related tolls, as the latter do not attempt to attribute the specific costs of a particular service directly to that service. A possible consequence of applying the concept of cost-related tolls is that the cost of providing service to one class of customers or shippers may be subsidized by another class of customers or shippers. In certain circumstances, where this subsidization does not lead to unjust discrimination, it may be the appropriate basis for deriving just and reasonable tolls. However, designing tolls on a cost-related basis requires the exercise of particular caution on the part of the regulator as tolls so designed may result in investment decisions being made based on tolls that do not fully reflect the actual cost of transportation. The subsidy inherent in this approach may then have to be continued by the regulator since to change, once investment decisions based on the resultant transportation tolls have been made, could have serious consequences. The proponent of a project, knowing the unsubsidized transportation tolls based on the user-pay principle, is surely in a better position to assess its economic viability.

While the Board recognizes that it must be aware of the environment in which it makes its decisions, the Board believes that any such consideration should not override the principles of toll design which it espouses. Given the circumstances in which IPL operates, the Board finds the application of the cost-based principle to be appropriate.

As stated earlier, Section 52 of the Act recognizes that tolls may be different for traffic of different descriptions travelling over the same route. In the case of IPL, this is achieved by means of surcharges which recognize differences in handling costs, special equipment requirements and/or horsepower requirements of the various hydrocarbon streams. As long as these charges reflect differences in the associated costs of providing the services, the Board is of the view that the recognition of these costs results in a toll design that is consistent with the objectives of Part IV of the Act. IPL's current surcharges are established relative to a light-crude base and, in the case of NGL and refined products, reflect both capital and operating costs associated with the transmission of these streams. However, with respect to the transmission of heavy and medium crudes, the surcharge is presently designed to recover only incremental operating costs.

During the course of the proceedings, certain parties supported an application of the cost-based or "user-pay" principle where it is relatively simple to segregate special facilities, such as in the case of facilities required to move a particular hydrocarbon such as NGL. However, where this task became more complex, such as in the case of determining the facilities' requirements for moving heavy and medium crude, the parties advocated a maintenance of the status quo, which makes no effort to account for the impact of these streams on capital expenditures or pipeline capacity. The Board sees these positions as being contradictory and is not persuaded that such inconsistent arguments lead to a proper application of the principles

which should govern the establishment of a toll design methodology for IPL. Without some rationale to justify different treatment, the Board is of the view that it would be inappropriate to apply the principles it has adopted in an inconsistent fashion when deriving the tolls payable by the shippers of different streams. The Board views the imposition of surcharges as an attempt by IPL to have the tolls for a particular stream more accurately reflect the costs associated with the transmission of that stream. With respect to difficulties in identifying the costs or capacity impact of moving medium and heavy crudes, the Board is of the view that some recognition of the extra burden imposed on the system by these grades of crude, even if the recognition is not perfect, is preferable to no recognition of these acknowledged impacts.

With respect to the duties and obligations of IPL as a "common carrier" the Board would draw the attention of parties to subsection 59(1) of the Act which states as follows:

> *"59.(1) Subject to such exemptions, conditions or regulations as the Board may prescribe, a company operating a pipeline for the transmission of oil shall, according to its powers, without delay and with due care and diligence, receive, transport and deliver all oil offered for transmission by means of its pipeline."*

Thus, the obligation on the pipeline is only imposed according to its powers and therefore the pipeline must have available both the capacity and the necessary facilities in order to be able to transport a particular product tendered to it. Of course, if the company does not presently have the required facilities it is clearly open to it to apply to the Board for approval to construct the necessary facilities. Within the framework of the discussion relating to IPL being a common carrier, it was suggested that, based upon this fact, IPL is one indivisible system and that the costs of any extensions or improvements should be included in one common rate base. The Board is of the view that no such requirement exists under Part IV of the Act and that in arriving at just and reasonable tolls it is open to the Board to segregate the costs associated with a given extension or improvement. In practice, the Board will attempt to achieve the most equitable distribution of the costs given the circumstances in which the decision is rendered.

During the course of the hearing, there was discussion concerning a possible connection between Parts III and IV of the Act and whether a decision under one part has binding implications for an application under the other part. Parties generally contended that no such link exists. The Board concurs with this position and treats proceedings under Part III and Part IV as being separate and distinct from each other. The tests to be applied under each Part are different and a decision by the Board under one Part does not bind or constrain the Board when considering an application under the other Part. The Board is of the view that this position is correct whether it is dealing with an extension of an existing service or the provision of a new service. The Board finds it inconsistent for parties to argue that because the Board has made a decision under Part III of the Act to expand existing facilities, such as the Phase I, II and III expansions, this should somehow preclude the consideration of the related toll issues under Part IV of the Act because to do so would result in some unfairness to the parties involved. As well, a finding that a particular toll methodology is appropriate under Part IV does not mean that the project must therefore be found to be in the public convenience and necessity under Part III.

Nevertheless, the apparent difficulties encountered by parties in this regard would lead the Board to conclude that, where possible, it is desirable that the Part III and Part IV proceedings either be held together or that the Part IV toll methodology portion precede the Part III proceedings. The difficulties associated with a consideration of the toll methodology for the proposed propane service and an examination of the continued appropriateness of the existing level of the surcharges for heavy and medium oil tend to reinforce this view.

In summary, since the Act requires that the Board ensure that tolls are just and reasonable, any methodology developed and applied must contribute to the achievement of this objective. In developing a toll methodology for IPL the Board will apply the two basic principles of making the tolls, to the extent possible, cost-based and ensuring that unjust discrimination does not exist.

Further, any toll methodology should apply these principles in a consistent manner to meet the test of overall fairness, as it is generally understood. If possible, certain desirable attributes such as

simplicity, stability and predictability, should be applied within the context of the enunciated principles.

8.2 Toll Methodology for IPL's Proposed Propane Service from Sarnia to Millgrove

As noted earlier, as part of its toll application IPL asked the Board to consider a toll design methodology for the Company's proposed propane service from Sarnia to Millgrove.[1] IPL stressed that its decision to proceed with final design and construction of the project depended on the approval of a suitable toll design.

In its evidence, IPL presented two scenarios (a low and a base case) to illustrate the application of its proposed toll methodology. IPL emphasized, however, that the cost and throughput figures were preliminary estimates, and that a precise determination of tolls was not being sought at this time.

As the hearing progressed, it became apparent that several intervenors who had been seen as potential users of the propane project, and whom IPL's proposed toll methodology was presumably designed to serve, did not support the proposed toll design. Some of these parties also expressed reservations over using IPL's propane service. In response to the apparent wane of support for its project, IPL announced during the hearing that it would not proceed with the project before take-or-pay agreements are secured with potential propane shippers, and until the project's economics are reconfirmed.

8.2.1 Allocation of the Capital and Operating Costs of the Propane Project

IPL's proposed toll methodology involved the allocation of the capital costs associated with the propane project between the Older System's general rate base and a propane surchargeable rate base. During cross-examination, IPL indicated that the principle applied in its schedules to illustrate the Company's proposed allocation was the same as that used on the rest of its system for the NGL and refined product surchargeable costs. That is, any costs in respect of facilities which would normally be provided to any shipper in return for their paying the light-crude rate[2] would be rolled into the light-crude rate base.

Examples of the project's costs which the Company considered in respect of facilities similar to those provided for basic crude service included metering, stopple equipment, and certain components of the delivery facilities such as land, fencing and buildings.

IPL indicated that the rest of the propane project's costs would be in respect of facilities considered over and above those needed for crude, and which would be required because of the characteristics of propane relative to those of crude, as well as because of the particular propane service contemplated (i.e. the inclusion of truck and rail loading facilities). IPL's allocation principle would assign these special facilities, as well as the particular handling costs for propane, to the propane surcharge. Examples of the facilities which IPL proposed allocating to the propane rate base were flare stacks, a fire protection system, the truck and rail loading equipment, and clean-up costs to prepare Line 8 for propane. IPL indicated that the associated surchargeable operating costs would include, inter alia, the salaries and benefits for incremental operating personnel, property taxes related to the special facilities, as well as minor amounts for supplies, equipment and specific maintenance costs related to the propane terminals.

Some intervenors expressed concern over the perceived riskiness of the propane project and concluded that the appropriate solution would be to treat the service on a stand-alone basis[3] in order to avoid any transference of the risk to payers of the light-crude toll. Several parties also pointed out

1 In May 1982, IPL applied to the Board for certain exemptions pursuant to Section 49 of the NEB Act with respect to the conversion of the pipeline's under-utilized crude oil Line 8 to propane service. Since the Board's initial order with respect to this application in May 1983, several procedural and legal complications have ensued. One such development was the Board's review of the location of the truck and rail loading facilities associated with the project, whereafter the Board confirmed its earlier decision. Certain conditions to the resulting Board Order were set aside by the Federal Court of Appeal and referred back to the Board for reconsideration.

2 All volumes on IPL's system pay the light-crude rate, to which are added surcharges or credits, as appropriate. Therefore "light crude" is often referred to as the base of toll calculations and cost allocations.

3 The term "stand-alone" was used by IPL to describe the assignment of all of the costs of the assets used for propane, as well as the costs of operating the service, to propane. On this basis, a separate charge altogether would be calculated for propane service, rather than a surcharge and a light-crude toll.

that after its conversion from crude service, Line 8 would be dedicated solely to propane service. They argued that a stand-alone treatment was therefore appropriate to ensure that only users of the service pay for the facilities associated therewith.

In light of IPL's intention to secure throughput agreements, both Imperial Oil Limited (Imperial) and Shell Canada Limited (Shell) accepted IPL's proposed toll design, including the principle of allocating the project's costs between light crude and propane on the basis of "basic service" versus special costs. CPA's fallback position (from that of a stand-alone treatment) was also an advocacy for the allocation of costs between crude and propane. However, both Shell and CPA expressed concern over the schedule of costs IPL had presented to illustrate the application of its allocation principle. In particular, the two parties questioned the magnitude of the delivery terminal costs assigned to the light-crude base.

In response to intervenors' arguments for a stand-alone treatment, IPL noted that no other service on its system is required to pay tolls on a stand-alone basis, but rather that all streams pay the light-crude toll. In addition, the Company indicated that it would be difficult to determine the appropriate value to assign to the existing Line 8 for stand-alone treatment. Furthermore, IPL questioned whether tolls designed on a stand-alone basis would be competitive with alternative modes of transportation in the early years and whether returns in both early and later years would be adequate.

Decision

The Board concurs with IPL's position that the propane service would not constitute a new venture per se for the Company, but that propane would be rather just another liquid hydrocarbon to be transported on IPL's system. With respect to the dedication of Line 8 to the propane service, the Board is of the view that this would simply be a result of IPL's intention to accommodate the new hydrocarbon in the most efficient manner. In light of these assessments, the Board does not believe that there are sufficiently compelling arguments to justify deviating from IPL's standard practice which would allocate the costs of the project between light crude and propane and thus result in propane shippers paying the light-crude toll plus a surcharge.

With respect to the specific assignment of the project's capital and operating costs, the Board notes that appropriate allocations will be able to be better defined when the Company ultimately applies for precise tolls. The Board further notes that IPL's cost estimates and project scope are preliminary at this time. Therefore, the Board will not direct at this juncture how the allocation procedure should be applied to those figures. However, the Board is of the view that the allocation procedure should follow the one currently used by IPL for NGL and refined products, which basically assumes that certain services and facilities are provided in return for payment of the light-crude toll. Within this procedure, consistent with the Board's decision in Section 8.6.4.1 re certain facilities on Line 1, cost causality should be considered when performing the allocation.

8.2.1.1 Linefill

In addition to the facilities and operating costs associated with IPL's propane service as discussed previously, the Company proposed to provide the required propane linefill and assign the undepreciated original cost of this item, less minor losses, to the propane surcharge.

During cross-examination, IPL indicated that it does not currently own linefill anywhere on its system, although it had done so in the past, and is presently investigating the option of again owning linefill on its system.

During questioning, IPL pointed out that Line 8 is of a much larger diameter than that which would be required to specifically accommodate the propane throughput contemplated. The Company indicated that as a result, a major concern of prospective propane shippers was the amount of linefill they might be required to provide, and that consequently these parties viewed IPL's provision of linefill favourably.

Decision

In light of the circumstances surrounding the propane project, including the volume of material required to fill the oversized propane line, the Board finds it reasonable that IPL provide the linefill in this instance, and that such linefill be considered a propane surchargeable item. The Board also finds it reasonable that the propane be included in the propane capital cost base at its

original book cost, less allowance for volume losses.

8.2.1.2 Credits/Charges in the Surcharge Calculation

i) Tankage Costs

Consistent with the design of IPL's light-crude tolls, the cost of tankage would be included in the light-crude terminalling charges which propane shippers would pay. IPL proposed granting propane shippers a credit to the light-crude toll to recognize that the propane service would not utilize tankage facilities such as those provided to crude shippers. Similar tankage credits are currently provided to NGL and refined products' shippers who are not provided with such tankage.

Decision

The Board finds it reasonable to extend a tankage credit to propane shippers for the type of tankage facilities included in the light-crude toll, which propane shipments will not use.[1]

The Board also finds IPL's proposal to calculate such a credit in a manner consistent with that for NGL and refined products reasonable (see also Section 8.6.6).

ii) Power Costs

During cross-examination, IPL acknowledged that it would not require any power to move the propane volumes along Line 8. IPL admitted that conceptually one might consider granting propane volumes a credit to the light-crude toll to recognize relative power usage, but argued that a credit to remove all power costs from the toll would be inappropriate. The Company explained that the unique situation of not requiring any power is the result of Line 8 being oversized for the purpose of moving the propane volumes. IPL did recognize, however, that even if propane were to move in an appropriately sized line, it would still require less power to move than light crude. The Company submitted that it might be appropriate to calculate a credit on such a basis.

Decision

With respect to power costs, the Board recognizes that propane shippers will be paying the light-crude toll and is of the opinion that propane shippers should be given a credit in their toll to reflect the lower power usage. The credit should reflect as closely as possible the reality of the pipeline system, and therefore, the Board believes it appropriate that propane shippers be given a credit for the full amount of power costs included in their light-crude toll. While the Board recognizes IPL's projection that incremental power costs will be incurred on the system as a result of transferring crude currently moving in Line 8 to Line 9, the Board believes that variations in power costs are a normal part of IPL's operations and occur whenever materials are shifted between the various lines on IPL's system. The Board also notes that, with time, the calculations necessary to determine such incremental costs would require numerous assumptions in order to model throughput on the various lines. For these reasons, the Board finds it reasonable that propane volumes receive a full power-cost credit and that estimates of incremental costs elsewhere on IPL's system not be used to offset any or all of the credit. The Board directs IPL to develop a method to calculate a fuel and power credit as prescribed above, and to submit it at an appropriate time for Board approval.

iii) Capacity

Decision

Consistent with its decision on capacity as outlined in Section 8.6.2 of this report, the Board expects that, if the propane service proceeds, a capacity surcharge (or credit) for propane would be developed by the Company and submitted for approval by the Board.

8.2.2 Design of the Surcharge for the Propane Service

In its evidence and during cross-examination, IPL indicated that it required a toll design for the propane service which would yield tolls sufficiently attractive to induce prospective shippers to switch from their existing modes of truck and rail transportation. IPL also stated that in addition to projected tolls which are directionally competi-

1 The Company indicated that there will be propane storage tanks at the terminal, which it proposed allocating to the propane surcharge.

tive, the toll design should yield rates which are relatively stable and predictable.

Consistent with its proposed allocation of the project's costs between light crude and a propane base, IPL proposed that propane shipments be subject to an appropriate light-crude toll for volumes from Sarnia to Millgrove, and a surcharge to recover the propane surchargeable revenue requirements.

IPL proposed that the propane surcharge be expressed as a percentage of the light-crude toll. The level of the percentage would be set with the objective of maintaining it at a constant level, unless circumstances and certain criteria dictated that a change were required. The level of the surcharge would be calculated so that, over a life cycle (20 years in IPL's illustrations), discounted propane surcharge revenues would equal the discounted value of the calculated propane surcharge revenue requirements. In the early years, such a surcharge would result in an under-recovery of surcharge revenue requirements. This under-recovery would be offset (in terms of present values) by over-recovery of the revenue requirements in the later years.

IPL proposed that in the years of propane surcharge under-recovery, the system's light-crude tolls would effectively increase to make up for the projected surcharge revenue deficiencies. Similarly, the light-crude tolls would decrease in later years when the percentage surcharge would yield revenues in excess of the propane surcharge revenue requirements. During cross-examination, IPL acknowledged that this mechanism would result in short-term cross-subsidization among shippers, but stated that the methodology would not be designed to result in longer-term cross-subsidization.

IPL submitted that its proposed percentage surcharge design was attractive because it would afford the necessary stability and predictability not available with an additive surcharge. In its evidence, IPL contended that an additive surcharge would suffer from front-end loading and fluctuations unavoidable with a small segregated revenue requirement base.

In conjunction with its basic proposal, IPL provided details of a possible adjustment mechanism, as well as a refinement whereby the effect of the first year's propane shortfall on the light-crude toll would be deferred and spread over the remaining years of the planning horizon.

As stated earlier, most intervenors advocated that the propane project be treated on a stand-alone basis. In the majority of cases, these parties did not expound on how the propane toll would then be designed. CPA did indicate, however, that if the project were accorded a stand-alone treatment, it would not be opposed to a levelling technique being used to design the toll. CPA also argued, however, that in the event that a stand-alone treatment were not found appropriate, then levelling of the surcharge should not be permitted, and the surcharge should be an additive.

As noted earlier, Imperial and Shell found IPL's proposed toll design acceptable in light of the Applicant's undertaking to secure throughput agreements with prospective propane shippers. Shell also indicated its support for a deferral of the first year's projected shortfall in propane surcharge revenues.

Decision

The Board shares IPL's concern relating to the efficient use of the Company's existing facilities, and recognizes the Applicant's consequent desire to introduce a competitively-priced propane service. In this regard, the Board has no basic objections to implementing appropriate techniques of toll levelling or other mechanisms in order to initiate new services.

However, the Board is not convinced that cross-subsidization, whether it be temporary or not, is a desirable condition to impose on IPL's system. Materiality aside, under IPL's proposal the light-crude toll in any given year would not reflect the unit cost to IPL of providing basic crude service. As stated earlier, the Board is not opposed to techniques of toll levelling per se, but believes that any such measures should be taken within the service in question and not affect non-users of that service. Therefore, the Board rejects IPL's proposal for design of the propane surcharge. Consequently, should IPL proceed with its plan to provide the propane service, the Company should submit to the Board a proposal for designing the propane surcharge, either incorporating a non-levellizing methodology, a

mechanism yielding a levellized surcharge within the propane service, or one where IPL bears the risk of the project.

8.2.3 Throughput Agreements

The Board recognizes IPL's undertaking to secure throughput agreements with prospective propane shippers, as well as the Company's intention to re-evaluate the viability of the propane service before proceeding with the project. The Board's decisions regarding toll design methodology for the propane service (as outlined in Sections 8.2.1 and 8.2.2) are based on fundamental principles and a basic presumption for toll purposes that there is a need for the project. Therefore, the foregoing decisions of the Board are not conditional on the type or extent of throughput agreements to be secured by IPL in support of its propane project.

8.3 Toll Methodology for the Conversion of the Montreal Extension to Accommodate NGL Service

As noted in Section 8.1, IPL's application requested that the Board consider the matter of an appropriate toll design for possible modifications to the Montreal Extension to accommodate NGL service thereon.[1] IPL stressed in a subsequent letter to the Board dated 26 September 1986 that a decision on toll design would assist the Company in its assessment of the economic viability of the project. By letter dated 27 October 1986, the Board indicated its intention to consider at the hearing the matter of toll design for the conversion project. The Board emphasizes, however, that its consideration of the matter as well as its decision thereon, as described in these Reasons for Decision, should in no way be construed as a judgment of the Board as to the public convenience and necessity of the project.

To illustrate its proposed toll design, IPL presented cost and throughput estimates for low, base, and high case scenarios. The base-case estimate of $50 million included, inter alia, 1) pump station upgrading to restore the capacity of the Montreal Extension to its original design capacity for light crude; 2) trunk-line upgrading to remove dents and buckles on the Extension, as well as retesting of the line; and 3) measurement, control, and communication systems. During the hearing, IPL indicated that work for trunk-line upgrading would be required within approximately two years, regardless of whether the NGL conversion proceeds. The Company also suggested that, at this time, the need to restore the capacity of the line is unlikely. IPL's low-case scenario of $30 million reflected the situation where capacity would not require restoration; the high-case scenario of $70 million assumed the same project components as the base case, but reflected additional costs for trunk-line upgrading over and above those contemplated in the base case.

As with the propane project, IPL cautioned that the figures it presented to illustrate its proposed toll design were preliminary estimates at best.

8.3.1 Allocation of the Capital and Operating Costs

IPL proposed that the capital costs of the conversion project be allocated between the light-crude base and an NGL base, using the procedures presently employed to make such allocation for the existing NGL service on the Older System. That is, costs related to capacity and services that would normally be provided for crude transportation service would be included in the basic system light-crude toll. Special facilities and handling costs specifically required by NGL over and above those required by crude would be allocated to an NGL-surchargeable base. IPL reasoned that the NGL service on the Montreal Extension would in fact be an extension of the existing NGL service on the Older System, and that therefore the same allocation rules should apply to both. IPL acknowledged, however, that its proposed allocation of the project's communication and control system to an NGL base differed from the treatment of similar costs on the Older System. IPL stated that, where identifiable, the costs in respect of similar equipment on the Older System were surcharged, but that, generally, the costs had become indistinguishable over time. The Company suggested, however, that any resulting benefit to the NGL surcharge has been small.

SOLIGAZ suggested that an improvement to IPL's proposal would be to roll all the costs of the conversion into the light-crude base. This proposal was consistent with SOLIGAZ's broader argument that

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1 The question of modifying the Montreal Extension is being examined by IPL as a result of SOQUIP (now a partner in SOLIGAZ) approaching the Company about the possibility of shipping NGL on the Extension. SOLIGAZ is a consortium of companies which is pursuing the matter of building an NGL fractionation plant in Montreal.

no facilities on IPL's system should be regarded as special and surchargeable (see Section 8.6.4). SOLIGAZ also indicated that, in the event that the practice of surcharging "special" facilities is continued, it would find IPL's proposed allocation acceptable, with the possible exception of the treatment of communication and control equipment.

In argument, Pétromont Inc. (Pétromont) supported IPL's proposed allocation of costs. At the same time, Pétromont found SOLIGAZ's proposal not to surcharge special facilities to be reasonable as well.

Imperial, Shell, and CPA also accepted the principle of allocating the project's costs between crude and NGL. However, both Shell and CPA expressed concern in argument over IPL's proposed allocation of the projected costs for trunk-line upgrading between crude and NGL.

Dome suggested that, conceptually, any costs incurred on the Montreal Extension which would not be incurred if the line were not converted to NGL service could be assigned to an NGL-surchargeable base. During cross-examination, the Alberta Petroleum Marketing Commission (APMC) suggested a similar treatment for the project. IPAC submitted in argument that the conversion costs should be treated on a "stand-alone" basis, with the exception of a portion of the costs related to trunk-line upgrading.

Decision

As discussed in Section 8.6.4 of this report, the Board finds it reasonable that the practice of classifying certain facilities as "special" for purposes of toll design be continued. For this reason, and with regard to the type of facilities associated with the NGL project, the Board finds it inappropriate to roll all the conversion costs into the light-crude base. The Board directs instead that the project's costs be allocated between crude and NGL bases.

The Board agrees with IPL's assertion that NGL service on the Montreal Extension would be the same as the type currently provided to NGL shippers on the Older System. The Board therefore finds IPL's proposal, in principle, for allocating the capital and operating costs of the project between crude and NGL pools on the same basis as is done on the Older System to be reasonable. The Board notes, however, that an exact application of IPL's principle and the appropriate allocation of costs would be more fully examined if and when specific tolls are applied for and more information is available about the actual construction involved. Consistent with its decision regarding the facilities on Line 1 associated with IPL's Phase III Expansion (see Section 8.6.4.1), the Board finds that regard for the concept of cost causality should be given when applying the general principle just described for allocating the project costs. That is, costs related to facilities and services normally provided for crude transportation service would not be automatically assigned to the pool of crude-related costs. Rather, before being so assigned, the Board would have to be satisfied that those facilities and services are consistent with the level and nature of facilities and services required for basic crude service.

The Board wishes to note that, at this time, the allocation of communication and control equipment to the NGL base appears reasonable. The Board recognizes that application of the principle in this manner may create an element of inconsistency with the treatment of such costs on the Older System. However, the Board believes that practical problems in identifying the Older System costs at this juncture do not justify deviating from the appropriate principles for the sake of consistency.

8.3.2 Treatment of the NGL-Related Costs

IPL proposed that the NGL-specific costs of the project be added to the NGL-surchargeable costs for the Older System, and that one common surcharge calculation result. IPL argued that the NGL service on the Montreal Extension would be an extension of the existing NGL service on the Older System, and that therefore one NGL surcharge structure for the total system would be appropriate. IPL indicated, however, that the additive nature of the existing NGL surcharge on the Older System would not be suitable to extend to the new overall surcharge and suggested that the NGL surcharge become distance related. In this regard, IPL suggested a distance-related additive (¢/m^3km), or a

percentage surcharge. In argument, the Applicant favoured the latter approach.[1]

SOLIGAZ, Pétromont, and le Procureur général du Québec favoured IPL's proposal to integrate the Older System and Montreal Extension's surcharge pools.

Most intervenors argued that the two surcharge pools should be kept separate altogether, or kept separate until certain prescribed criteria are met. Some parties suggested that the projected impact of IPL's proposed toll design on the existing NGL surcharge was unreasonable. Several parties concluded that shippers on the Extension who would use the NGL service and benefit from it should pay for the costs associated with such service. Some suggested that such should be the case at least until the benefits of the project are better known.

The majority of the parties who advocated individual surcharges suggested in cross-examination that, if the surcharges were to be kept separate, any benefits which might accrue to the Older System surcharge as a result of incremental volumes destined for the Extension could be passed on to the Montreal Extension NGL surcharge (i.e. via an upstream credit).

Decision

The Board has given careful consideration to the question of whether there should be one or two NGL surcharge determinations. While the Board agrees that the type of service offered to NGL from Edmonton to Sarnia and from Sarnia to Montreal would be the same, the Board has difficulty accepting that argument as justification for combining the costs for NGL service on each segment. In the Board's view, the introduction of the one receipt/one delivery point NGL service on the Extension (some fifteen years after NGL service was introduced on the Older System, and more than ten years after the Extension was constructed) can be thought of as constituting a distinct component of IPL's NGL service. These facts, combined with regard for the principle of user-pay, leads the Board to conclude that it is appropriate that there be a separate NGL surcharge for the service provided from Sarnia to Montreal. The Board finds it reasonable that the revenue requirement used to calculate such a surcharge for the Montreal Extension comprise the same components, as appropriate, as the revenue requirement used to determine the Older System's NGL surcharge.

In view of the above decision, the Board has considered the appropriateness of upstream credits (or charges) for the calculation of the Extension's surcharge. An upstream credit or charge would be an attempt to transfer to the Montreal Extension the benefits or costs incurred on the Older System as a result of the additional NGL throughputs destined for the Montreal Extension. In the Board's view, the granting of a credit or the imposition of a charge for certain volumes moving on the Older System (i.e. those destined for the Montreal Extension) would essentially result in a different toll for volumes of the same description moving over the same section of pipeline. Furthermore, an upstream credit or charge could be calculated fairly only if all costs incurred on the Older System could reasonably be attributed to either NGL volumes moving just on the Older System or to NGL volumes also destined for Montreal. In addition, such credits or charges do not appear fair when it is taken into consideration that these same Montreal Extension volumes will continue to share in any benefits or costs associated with higher throughputs of other volumes on the Older System. For these reasons, the Board does not approve an upstream credit but believes it is more appropriate to treat the two NGL surcharges completely independently of each other, thus recovering the full revenue requirements of each segment from whatever NGL volumes flow thereon.

With respect to the form that the Extension's NGL surcharge should take, the Board is not prepared to approve a percentage surcharge as proposed by IPL, for the reasons outlined in Section 8.2.2 re the propane surcharge. The Board is of the view that the surcharge should be calculated on an additive basis.

Because there would likely be only one receipt and one delivery point for NGL on the Extension, the Board notes that it would be academic to make the additive surcharge distance related.

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1 The surcharge would be expressed as a percentage of the light-crude toll. During cross-examination, IPL indicated that the suggested percentage approach was the same as the Company's proposal for the propane surcharge. For details of this methodology, see Section 8.2.2.

8.3.3 Support Arrangement

In light of the circumstances surrounding IPL's investigation of the feasibility of NGL service on the Montreal Extension, the Applicant indicated that it would not proceed with a facilities application without a suitable support arrangement. IPL noted that the support arrangement would incorporate the features of a throughput agreement. The form and content of such an arrangement attracted much attention during the hearing, as did its role, if any, in a toll design decision made pursuant to the hearing.

In respect of the possible conversion, several intervenors suggested that any toll design approved by the Board as a result of the hearing should be conditional on a support arrangement being secured. IPL and other parties argued that a support arrangement was not relevant in a decision on toll methodology, but rather that the role of any such arrangement would be assessed in respect of a facilities application.

Decision

As with its decision on propane toll design, the Board based its toll design decisions for the Montreal Extension NGL conversion project on toll design principles and with regard to justness and reasonableness given the circumstances of the case. The Board concurs with IPL's assertion that the matter of a support arrangement is related to the viability of a project and therefore has more bearing on Part III matters of the Act than on Part IV matters. Consequently, the Board's toll design decisions (outlined in Sections 8.3.1 and 8.3.2) are not conditional upon IPL securing a support arrangement for the project. This, however, should not be construed in any way as a judgment of the Board as to the necessity of IPL securing a support arrangement to justify the project for purposes of Part III of the Act.

8.3.4 Rate of Return for the Project

Although the NGL project would involve conversion of the facilities on the Montreal Extension, IPL proposed that the capital cost of the project earn a rate of return equal to that of the Older System. The Company explained that the project would be financed in a manner similar to investments on the Older System, that expenditures related to the conversion would not be protected under the terms of the Deficiency Agreement, and that consequently the Applicant would assume the same level of risk as it does for any other project. During cross-examination, IPL indicated that its request for the Older System's rate of return was restricted to the capital cost associated with the project, and suggested that an allocation of the Montreal Extension's working capital to the project for the purposes of rate of return might be an undue complication.

As previously indicated, IPL stated during the proceedings that the trunk-line upgrading component of the project would be undertaken regardless of whether or not the conversion project proceeds, but that upgrading would be accelerated in preparation for the conversion. During cross-examination, Dome expressed concern over the possibility that IPL could earn the Older System's rate of return on trunk-line upgrading of the Extension.

In argument, both SOLIGAZ and Shell supported IPL's request that the project be allowed to earn the Older System rate of return.

Decision

The Board recognizes IPL's intention to finance the conversion project as the Company does its other investments, and IPL's argument that the conversion of the Montreal Extension would not fall within the terms of the Deficiency Agreement. With respect to work which would have to be undertaken on the Extension in any event, the Board understands that at this time it is not clear how such expenditures could be treated under the terms of the Deficiency Agreement.

The Board finds it reasonable that IPL be allowed to earn the Older System's rate of return on any approved capital costs of the Montreal Extension conversion project which would not be protected under the terms of the Deficiency Agreement.

8.4 Two-Part versus Integrated Toll Design Test

During the hearing, the issue of whether the two-part versus integrated test for the toll design on the Montreal Extension should be retained was examined. The Applicant filed the test-year tolls based on the integrated basis and, during cross-examination, stated that the test was no longer appropriate and requested that it therefore be discontinued.

The test was designed to ensure that users of the Older System were not adversely affected by the Montreal Extension; the applicable toll design, two-part (or add-on) or integrated (or rolled-in), would be that which produced the lower average tolls to the users of the Older System. The Applicant recognized that a strict application of the test would have meant the use of two-part rather than integrated tolls for the test year. However, Interprovincial continued to utilize integrated tolls which were adopted in the Board's February 1984 IPL Reasons for Decision. IPL had then indicated that, if the integrated approach was approved, it would prefer to remain on that basis in the interests of consistency and rate stability.

The Applicant gave several reasons to support its request for discontinuing the test. IPL pointed out that circumstances had changed since the Montreal Extension was built and the test was created. IPL noted that export controls were no longer in place and cited the present free-market environment as a relevant consideration. IPL submitted that, if export controls were still in place, volumes now exported would be shipped to Montreal and the Extension would pass the benefit test. During cross-examination, Interprovincial acknowledged that the difference in the average transmission rate between the integrated and the two-part basis was very small. While the declining throughput on the Montreal Extension has increased the average cost of shipping on the Extension, the expansion program on the Older System has increased the average transportation cost on it.

IPL also noted that the test is based on a methodology that results in a lower average toll to the Older System users and inherent in this is that the Montreal Extension shipper always pays the higher of the two tolls between that determined under an integrated basis and that determined under the two-part method. The question of this apparent unfairness was pursued with some intervenors during the hearing.

Interprovincial felt that the Montreal Extension was now an integral part of the IPL System and that the toll design should reflect the fact that its system is fully integrated. This approach was seen as being consistent with that taken for rolling-in the Ontario section and the Nanticoke lateral.

Some intervenors supported the Applicant's position while others took the position that there was no reason to discontinue the test. In their view, the purpose of the test was to prevent cross-subsidization of the Montreal Extension by the Older System and removal of the test would precipitate the same issue. These intervenors submitted that uncertainties and declining throughputs on the Montreal Extension indicated that conditions for retaining the test still exist. Such a benefits test, it was stated, should apply to all major extensions and the test should be considered, even if it need not be invoked unless the impact of the Extension on the existing system was material.

Decision

The Board, upon consideration of the evidence, is of the view that the two-part versus integrated test for the toll design for the Montreal Extension should be discontinued. The Board is persuaded that the test is unfair, in that the tolls are always determined using whichever method, integrated or two-part, yields the lower average toll for the Older System.

On the matter of the appropriate toll design for the Extension (i.e. integrated or two-part), the Board accepts the calculation of tolls on an integrated basis for the test year given the relatively small difference, currently, in the average transmission rates between the two methods, and the absence of objections to the use of integrated tolls for the test year.

The Board recognizes the apparent inconsistency between integrated light-crude tolls and its decision to treat the NGL surcharge for the potential conversion of the Extension independently from the NGL surcharge on the Older System (see Section 8.3.2). In this regard, given its views on toll design principles and objectives as described in these Reasons, the Board is not convinced that the integrated approach is necessarily the appropriate toll design for the Extension. However, the Board is not satisfied that the matter of the ultimate toll design for the Extension (i.e. integrated or two-part), after the elimination of the test, was adequately addressed during the hearing. In particular, the Board notes that there was no examination of the matter of whether two-part tolls, if ultimately approved by

the Board, should continue to be determined based on a Modified Older System and the inclusion of an upstream credit.[1]

In view of the Board's concern that these matters were not adequately examined during the hearing, the Board intends to deal with the matter of the appropriate toll design for the Extension, given the elimination of the test, at the earliest opportunity. This examination will include consideration of whether tolls, if calculated on a two-part basis, should reflect an upstream credit for the Extension shippers.

8.5 Tolerance Level Between Approved and Forecast Actual Rates of Return on Common Equity

In its evidence, APMC noted that the Board presently permits IPL to retain excess revenue until it reaches two percentage points above the rate of return allowed by the Board. APMC suggested that this is overly generous and that IPL should be allowed to retain only 25 percent of this excess, with the remaining 75 percent to be placed in a special deferral account to be applied to the following year's tolls. APMC also took the position that its proposal should apply in the case of the Company earning less than its allowed rate of return on equity. APMC modified its position in argument, simply stating that the current tolerance level should be reduced.

In commenting on APMC's proposal, IPL noted in argument that the Board, prior to issuing Order No. TO-4-85 and the Orders relating to the toll adjustment procedures for the other large oil pipelines, had thoroughly canvassed the views of these companies and interested parties. The Company took the position that the current toll adjustment procedures have worked well in the past and accommodate changes in many factors, including throughput, because the variance that triggers a toll adjustment is based on rate of return on equity.

Decision

The Board is satisfied that the toll adjustment procedures currently in place adequately control IPL's level of return and therefore rejects the proposal put forward by APMC. In addition, the Board will continue to monitor IPL's performance through its review of monthly throughput and quarterly surveillance reports.

8.6 Test-Year Toll Design

8.6.1 Introduction

In addition to criteria for monitoring IPL's financial performance and matters of toll methodology for projects not expected to be in service in 1987, the Board examined various issues which have a direct impact on the design of tolls for the test year and beyond. These items are set out in the succeeding sections of this chapter.

8.6.2 Capacity-Related Surcharges

In 1984, the Board directed IPL to perform a study of the full cost of transporting heavy crude which would address means of reflecting in tolls any additional costs associated with its transportion. In its study, IPL indicated that the impact of heavy and medium crudes on the capacity of the IPL system should be considered in assessing appropriate surcharges. IPL concluded, however, that it was not possible to determine the full cost of transporting medium and heavy crudes, since facilities installed for those crudes over the years are now indistinguishable in the pool of costs which forms the basis for the light-crude rate.

During the subject hearing, IPL indicated that it still considered the 1984 study relevant, and the analysis and conclusions in it valid.

8.6.2.1 Effect of Different Hydrocarbon Streams on Capacity

There was considerable discussion during the hearing of the effects of different streams of hydrocarbons, such as heavy and medium crudes, NGL and refined products, on the capacity of the IPL system. The evidence showed that it is very difficult to quantify the effects of various hydrocarbon streams on the capacity of the IPL system since the impact depends on a number of interrelated factors. These factors include physical properties such as density, viscosity and vapour pressure, as well as operational factors.

No parties disputed that, under certain circumstances, heavy crudes reduce the capacity of the

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1 Under the existing two-part toll methodology, Older System shippers pay a toll determined as if the Montreal Extension did not exist. Thus, the benefit associated with volumes destined for Montreal that move on the Older System accrues to Montreal Extension shippers. This benefit is referred to as the upstream credit.

IPL system. Evidence showed that the capacity of Line 3 with the forecast test-year flows of heavy and medium crudes would be about 50 000 m^3/d less than the capacity with only light crude flowing in the line. As well, an additional decrease of 17 000 m^3/d has already occurred to prepare Line 3 for transportation of medium and heavy crudes.

Regarding the impacts of other hydrocarbon streams on capacity, it was indicated that the capacity of Line 1, which transports synthetic crudes, NGL, and refined products, depends on the relative flows of those hydrocarbons. Evidence also showed that the effect of synthetic crude on capacity can be completely different, depending on the actual pipeline facilities. Before completion of Phase III construction, the more synthetic crude in Line 1, the lower the capacity would be. Following completion of Phase III, that effect would be reversed, with Line 1 capacity becoming greater with increasing flows of synthetic crude.

With respect to the Montreal Extension, IPL indicated that the introduction of NGL into that line would reduce the Extension's capacity by about 8 700 m^3/d. Dome and SOLIGAZ, on the other hand, argued that NGL required less capacity than does light crude, since capacity of the Extension with only NGL flowing in it would be greater than the capacity if only light crude flowed.

In addition to the relationships between physical properties of hydrocarbon streams and capacity, IPL indicated that short-haul movements on its system reduce the effective capacity of the pipeline. The evidence also showed that batch sequencing and mix of streams flowing in a line are two operational factors which affect capacity.

In the Board's view, the evidence clearly shows that flows of heavy and medium crudes result in reduced capacity of the IPL system from the capacity with only light crude flowing, while evidence regarding the effects on capacity of other hydrocarbon streams is less conclusive.

8.6.2.2 Necessity for Capacity-Related Surcharges

The capacity of a pipeline system is related to the physical facilities in place. As discussed in the previous section, some heavier hydrocarbons cause a reduction in total system capacity. Some intervenors stated that if a reasonable evaluation of the demand placed on capacity by different hydrocarbon streams and the associated costs could be derived, then these costs should be reflected in the tolls charged for these hydrocarbon streams. This would lead to what was termed a "capacity-related" surcharge. APMC (as a shipper)[1], the Airlines and Shell, along with Gulf Canada Corporation and Petrosar Limited in letters of comment, supported the implementation of capacity-related surcharges.

In its toll application, IPL did not propose capacity-related surcharges. Indeed, IPL suggested that a uniform toll structure which would remove even the existing fuel and power surcharge might be more appropriate at this time. However, during cross-examination IPL did acknowledge that, in principle, capacity costs should be recognized in the design of tolls, and that if additional costs associated with the impact on capacity could be identified, then appropriate charges should be imposed. A witness for IPL stated that if a pipeline system were characterized by excess capacity then it might not be appropriate to reflect such capacity costs in the toll design. IPL's final position was that capacity surcharges should not be levied because it would be too difficult to identify, in a meaningful way, the capacity impacts of the various streams on its system and the associated costs.

A number of other intervenors, including CPA, Imperial and IPAC, opposed the imposition of capacity surcharges. There were four major objections. First, it was claimed that imposing a surcharge would have serious negative impacts on the heavy oil industry and that the ultimate result would be a decrease in pipeline throughput and hence an increase in tolls. Secondly, it was argued that IPL, as a common carrier, should not make a distinction in tolls based on the type of throughput. Thirdly, certain parties including IPL, who agreed that surcharges should, in principle, reflect capacity effects, stated that they did not believe they should be implemented because of the difficulty in determining the appropriate surcharge levels. Finally, it was argued that it would be unfair to impose surcharges now, given that the substantial investments of IPL's Phase II and III expansions were undertaken on the basis of the existing level of surcharges.

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1 APMC, on behalf of the Government of Alberta, submitted that any consideration of changes to the current surcharge methodology should be the subject of a separate hearing.

Decision

The Board has stated that a principle which it has attempted to apply in the development of an appropriate toll design methodology for IPL is that tolls should be, to the greatest extent possible, cost-based.

The varying characteristics of different hydrocarbon streams flowing in the IPL system result in different demands being placed on the system's capacity, which in turn has cost implications for the pipeline. The Board notes that IPL's status as a common carrier in no way precludes charging different tolls for different hydrocarbons where, because of their inherent characteristics, those hydrocarbons impose different costs on the pipeline.

The Board acknowledges the difficulties in establishing precise levels for capacity-related surcharges. However, the Board is not persuaded that no surcharge should be applied simply because it is not possible to determine a precise value for the surcharge. The Board notes, for example, that (as discussed in Section 8.6.3.1) even the current 5 and 15 percent surcharges are not precise evaluations of incremental fuel and power costs associated with moving medium and heavy crudes.

The Board notes as well IPL's view that if a pipeline system were characterized by excess capacity, then it might not be appropriate to reflect related sunk capacity costs in the toll design. The Board acknowledges that, in a situation of excess capacity, interests of economic efficiency may argue in favour of reducing tolls in order to increase the use of the system. However, at this time, the Board is not persuaded that sufficient evidence of this nature exists for IPL's system.

The Board agrees with interested parties that, to the extent possible, it is important to evaluate the potential impact of toll design changes on pipeline throughput, since a large negative impact could result in higher light-crude tolls. However, the Board notes that, in this instance, the toll changes associated with the introduction of capacity surcharges would be small relative to recent fluctuations in the oil price. In light of current and projected oil prices, the Board is of the view that such toll changes would not be likely to have a major impact on pipeline throughputs.

In conclusion, the Board finds that, in the interests of achieving cost-based tolls, IPL's toll design should reflect the impact of different hydrocarbons on the capacity of the IPL system.

8.6.2.3 Methodologies to Reflect Capacity Utilization in Tolls

During the hearing, there was discussion of a number of possible toll methodologies which would use capacity utilization to allocate costs to the different hydrocarbon streams. Appendix IV to this report describes some of those methods in more detail.

IPL has not implemented capacity-related surcharges because the Company has not been able to devise a methodology which it believes would allocate costs with a degree of certainty. It was the Company's position that it was unable to allocate capital-related costs to crude types on the basis of capacity in any justifiable manner, and that any attempt to make an allocation on such a basis would be arbitrary. According to IPL's witnesses, an appropriate methodology to allocate the Company's revenue requirement on the basis of capacity utilization would be very complex and would have to recognize many factors.

In general, interested parties, whether they advocated capacity surcharges or not, submitted that if surcharges were implemented to reflect capacity utilization, then they should be designed to recover that part of the revenue requirement which varies with capacity.

In its evidence, APMC advocated delayed and phased-in capacity surcharges for heavy and medium crudes (see Appendix IV of this report, Methodology 1). The essence of APMC's position was that the cost of additions which improve service to many shippers, and incremental operating costs not identifiable to one class, should be allocated on the basis of capacity utilization.

SOLIGAZ advocated capacity-related surcharges similar to those proposed by APMC. Under SOLIGAZ's proposal, capital costs would be rolled in and then allocated by capacity-related surcharges.

In argument, the Airlines advocated that the rate of return, income taxes, and depreciation costs associated with Phases I, II, and III be recovered by surcharges on heavy and medium crudes. IPL

contended that Phase I, II and III construction was part of a general system expansion, and should not be attributed solely to heavy crudes.

The Airlines estimated that charging heavy and medium crudes for the costs associated with Phases I, II and III would result in surcharges of 25 percent in 1987, and 35 percent thereafter. The Airlines emphasized that it was not necessary to ensure that surcharges are perfectly accurate, but rather that informed judgment should be used to derive reasonable surcharge levels.

Some parties advocated that IPL be directed to further study the question of capacity-related surcharges, or that the matter be the subject of a further hearing. Others, IPL included, felt that the issue had been thoroughly canvassed during the hearing and that the examination had yielded no reasonable methodology by which capacity-related surcharges could be implemented. Furthermore, some intervenors suggested that it would be unfair to introduce capacity-related surcharges, or that it would be impossible to derive an appropriate methodology.

Both IPL and Imperial felt that it would be unfair to subject medium and heavy crudes to capacity-related surcharges while ignoring other factors such as short hauls and batching which also negatively affect capacity. In Imperial's view, an attempt to impose surcharges on the basis of the evidence from the hearing would be arbitrary and potentially discriminatory.

Shell, on the other hand, believed that IPL could develop a methodology which would reflect an element of fairness, and felt that IPL should be directed to attempt to find such a method.

Decision

At this time, the Board is not satisfied that there is conclusive evidence to find that any of the methods discussed during the hearing would provide a satisfactory mechanism to reasonably allocate costs on the basis of capacity utilization of the various hydrocarbons transported on the IPL system. Nonetheless, the Board finds that delays in implementation of capacity surcharges should be avoided. The Board therefore directs that pro tem capacity surcharges of 5 percent for medium crude and 15 percent for heavy crude be imposed for the test year. These surcharges are in addition to the existing 5 percent and 15 percent surcharges which reflect additional operating costs.

The Board recognizes that these capacity surcharges were established on the basis of judgment rather than on a precise formulation. However, the Board feels that they are directionally correct and reasonable.

The Board concurs with interested parties that the matter of allocating costs on the basis of capacity utilization is extremely complex and cannot be fully resolved at this time. The Board believes that it will take time to develop an appropriate methodology to allocate capacity-related costs on the basis of capacity utilization for all the hydrocarbon streams transported by IPL. In this regard, IPL is directed to perform a study to estimate the appropriate levels of surcharges or credits to reflect capacity utilization costs for each of the streams using its system. The study should address possible methodologies which would result in tolls which would allocate, in a reasonable manner, the portion of the revenue requirement which is related to capacity.

The Board recognizes that perhaps all factors affecting capacity cannot be reflected in a methodology, and that it may be impossible to derive a methodology which precisely and accurately assigns costs on the basis of capacity utilization.

With respect to reflecting in surcharges the impact of batching on capacity, the Board notes that if only one hydrocarbon were transported, then batching would not be necessary. Thus, it would appear to the Board that to surcharge certain streams for the effects batching has on capacity may presume prior rights of other streams to pipeline capacity.

The Board notes that short hauls have an impact on system capacity when sections of the pipeline are shut down as a result of IPL making full stream deliveries or injections. However, if deliveries and injections were slipstreamed, then section shutdowns would not be necessary, and the impact of short hauls on capacity might be lessened. In the Board's view, it would appear that section shutdowns are beyond the control of shippers and are a consequence of IPL's mode of operation. The Board is therefore of the view that the impacts of section shutdowns

on capacity should not be reflected in capacity surcharges.

In summary, while recognizing that operational factors such as batching and short hauls do have an effect on capacity, the Board is not convinced that these factors should be reflected in capacity surcharges. However, the Board recognizes that the question of whether or not surcharges should reflect the impact of operational factors on capacity was not fully examined during the hearing, and therefore directs IPL to address it further in the study to be provided to the Board.

Copies of the study should be filed with the Board and served on interested parties by 30 June 1988. It is expected that the study will analyze the methodologies outlined in Appendix IV, although it should not be limited to only those methods.

8.6.3 Fuel and Power Surcharges/ Credits

One aspect of IPL's current toll design is that relative fuel and power costs for medium and heavy crudes, and for NGL, are reflected in the setting of tolls. In the case of medium and heavy crudes, surcharges of 5 percent and 15 percent above the light-crude rate, respectively, have been charged to reflect additional fuel and power costs. In the case of NGL, a credit on the basis of a power saving due to the low density of this material has been included in the determination of the NGL surcharge revenue requirement, thus serving to reduce the surcharge for NGL that would otherwise result.

During the hearing, the continued appropriateness of the existing medium and heavy crude surcharges for fuel and power was considered. As well, the Board examined whether a power-cost saving for refined products should be reflected in tolls and whether the existing methodology for calculating the NGL power-cost saving continued to be fair.

8.6.3.1 Medium and Heavy Crudes

One component of the previously referenced December 1984 study with respect to medium and heavy crudes included a review of power-cost considerations related to transporting medium and heavy crudes. The study examined the use of both an incremental-cost approach and a unit-cost approach for deriving fuel and power surcharges for these hydrocarbons. The 1984 study, which reflected the flow pattern and operational changes forecast for 1985, illustrated that surcharges of 15 and 33 percent for medium and heavy crudes respectively would result under an incremental-cost approach, while a surcharge of 11 percent would result for both medium and heavy crude under a unit-cost approach.

An update to the 1984 study based on the flow patterns and operational changes anticipated for 1988 was filed in Exhibit B-5. This study, referred to as the 1986 study, indicated that an incremental-cost approach would yield fuel and power surcharges of 10 and 13 percent for medium and heavy crudes respectively, while a unit-cost approach would yield surcharges of 11 and 15 percent.

The Applicant's position with regard to the increased power costs required to transport medium and heavy crudes is that they cannot be accurately determined. However, in the Applicant's view, the 5 and 15 percent surcharges do produce additional revenue to reasonably offset the increased power costs associated with moving medium and heavy crude and, accordingly, represent an element of fairness in the overall toll design.

Decision

On the basis of the information before the Board at this time, it would appear that an incremental-cost approach to estimating the additional fuel and power cost associated with transporting medium and heavy crudes may be an appropriate means of calculating fuel and power surcharges for these streams. In drawing this conclusion, the Board notes that IPL has used the incremental-cost approach for deriving fuel and power cost estimates since 1982.

While the Board accepts the 5 and 15 percent fuel and power surcharges at this time, the Board requires IPL to develop an incremental-cost approach for calculating fuel and power surcharges. The Company is to file this methodology with the Board and serve it on interested parties by 30 June 1988. In developing an incremental-cost methodology, the Company is to examine and report on the effect of using light-crude pump curves in the "all-light" crude case, notwithstanding the design of the pumps physically on the line.

The June 1988 submission to the Board should include the Company's analysis of the relative merits of using an incremental-cost approach for determining these surcharges and should identify how the Applicant would view such an approach being incorporated into the toll-setting procedures in place for IPL. That is, the Company should address such matters as:

i) whether the surcharge levels under an incremental-cost approach should be reset under Class 1 or 2 toll adjustments;

ii) how often the surcharge levels should be set under an incremental-cost approach; and

iii) whether, for a given application (be it a Class 1, 2 or 3), the applied-for surcharge level should be reset to reflect the difference between applied-for and approved throughput levels.

8.6.3.2 NGL and Refined Products

In its February 1984 IPL Reasons for Decision, the Board directed that the surcharge revenue requirement for NGL reflect a NGL power-cost saving to be calculated in accordance with Table 8-3 of that Report. During this hearing, Petro-Canada Inc. (Petro-Canada) submitted that there should be a refined products power-cost saving calculated using the same methodology as that prescribed for NGL in 1984. That methodology included the use of a number of constants. During the hearing, the matters of the appropriate constants for refined products and the continued appropriateness of the previously approved constants for NGL were examined. Table 8-1 is a comparison of:

i) the constants used for the calculation of the NGL power-cost saving in 1984;

ii) the constants proposed by IPL during the hearing for the calculation of the NGL and refined products power-cost savings; and,

iii) the constants proposed by Petro-Canada for the calculation of the NGL and refined products power-cost savings.

Regarding its proposed refined products power-cost saving calculation, Petro-Canada, by using the same demand/energy ratio used in the February 1984 IPL Reasons for Decision, a distillate/gasoline ratio estimated from 1985 Statistics Can-

Table 8-1
Constants in the NGL and Refined Products Power-Cost Savings Calculations

	1984 Reasons for Decision	Proposed by IPL	Proposed by Petro-Canada
Demand/Energy Ratio of Fuel and Power Cost for Western System	40/60	46/54	40/60
Distillate/Gasoline Ratio for Refined Products	–[1]	45/55	40/60
Refined Products Horsepower Requirement (percent of light crude)	–[1]	70%	65%
NGL Horsepower Requirement (percent of light crude)	50%	39%	30%

1 Not applicable to NGL and accordingly not included in the February 1984 IPL Reasons for Decision.

ada data, and a simplified horsepower calculation, calculated a power-cost saving of $651,453 for the test year.

IPL differed from Petro-Canada on the constants to be used for the determination of a power-cost saving for refined products and calculated a power-cost saving of $502,528. During the hearing, a witness for Interprovincial indicated that the demand/energy ratio for the Western system had changed due to changes in the operation of the pipeline. Further, he advised that IPL's calculated refined products horsepower requirement took into consideration the actual pipeline system elevation and operational constraints. In addition, the witness indicated that the friction factor formula used in Petro-Canada's simplified horsepower calculation is only one of the friction factor formulae used by IPL.

With regard to the matter of the NGL power-cost saving, in addition to revised demand/energy ratios, both Petro-Canada and IPL submitted NGL horsepower requirements which were lower than those included in the 1984 calculation. On the basis of those revised constants for NGL, IPL calculated an NGL power-cost saving of $837,670, an increase from the amount of $762,904 included in its application which was based on the 1984 constants.

Shell and Imperial were of the view that IPL, being the operating company, should know its system better than others. Accordingly, they supported the power-cost savings as determined by IPL.

Decision

The Board agrees that there should be a refined products power-cost saving, and is of the view that the methodology used in 1984 for NGL should be applied to refined products at this time.

On the basis of the information before the Board, the Board considers the Company's proposed demand/energy ratio, refined products and NGL horsepower requirements and distillate/gasoline ratio to be reasonable.

Accordingly, the Board directs the Applicant to include power-cost savings for NGL and refined products calculated using the constants proposed by IPL, as summarized in Table 8-1, in the determination of the surchargeable revenue requirements for NGL and refined products respectively.

While the Board supports the continuation of the methodology set out in its February 1984 IPL Reasons for Decision for calculating power-cost savings, the Board requests that IPL conduct a study of the merits of this methodology and identify any alternatives to it that the Applicant feels might more appropriately estimate the power-cost savings associated with NGL and refined products. In particular, the Board would like the Applicant to review the appropriateness of basing the methodology on light-crude equivalents. An alternative the Applicant may wish to consider is basing the methodology on actual fuel and power cost ratios.

In addition, the Board requests that Interprovincial address such matters as how often the constants used in the calculations should be adjusted and what should trigger an adjustment.

The Board requests that the study be filed with it and served on interested parties by 30 June 1988.

8.6.4 Special Facilities

In its application, IPL calculated its proposed NGL and refined product surchargeable revenue requirements in accordance with the methods approved by the Board. These determinations included a charge for "special" facilities, these being facilities installed to meet the unique requirements of the particular stream (i.e. facilities which are over and above those required to move crude).

SOLIGAZ suggested that facilities should not be singled out as "special" and surchargeable. SOLIGAZ argued that the method of determining which of IPL's facilities are special is illogical because it, in effect, classifies the assets on the basis of the order in which services have been introduced to IPL's system. Furthermore, during cross-examination, the toll design witness for SOLIGAZ suggested that, in practice, application of IPL's criteria requires arbitrary cost allocations. The witness also indicated that segregation of small pools of assets in the toll design contributes to instability in the resulting surcharges.

The matter of special facilities was also examined during the hearing from two other perspectives. The connection between approval of facilities under Part III of the NEB Act and the toll treatment of those facilities under Part IV of the Act was explored, as well as the appropriateness of rolling-in facilities given the level of service they provide.

The hypothesis that approval of all facilities under Part III of the Act should imply automatic rolling-in and non-segregation of their costs for Part IV purposes found little support among parties to the hearing. With respect to the level of service argument, some parties agreed during cross-examination that the service provided to NGL and refined products does not differ from that provided to crudes. However, many parties rejected this suggestion and/or argued that special facilities should continue to be surcharged.

Imperial and IPL saw merit in the rolling-in of special facilities if it were one step in the elimination of all surcharges and credits and the simplification of IPL's toll structure. Imperial recognized in argument, however, that such a uniform toll design was not thoroughly explored at the hearing.

Decision

As already explained, the Board is of the view that, whenever possible, tolls should reflect the cost of providing service to each of the various streams transported. The Board's view is that no compelling arguments were made or theories expounded to justify deviating from the principle of identifying and surcharging special facilities. The Board, therefore, directs IPL to continue identifying such facilities as surchargeable according to the Company's current procedures.

8.6.4.1 Phase III Line 1 Expansion

During the hearing, IPL indicated that expansion of its Line 1 from Regina to Gretna would involve, inter alia, the installation of special facilities. It was not, however, the Applicant's intention to include the cost of these new facilities in the calculation of the NGL and refined products surcharges. IPL explained that the construction program on Line 1 was but one aspect of an overall system capacity expansion, that all streams in the aggregate impact on capacity, and that the new Line 1 was not being built for any reason specifically associated with NGL and refined products. IPL therefore proposed that NGL and refined products continue to be charged the cost of the special facilities which were originally constructed to meet their needs, and that the cost of the new special facilities be included in the light-crude toll to be paid by all shippers.

In their arguments, Shell supported IPL's proposed treatment, while SOLIGAZ suggested that such treatment was another reason to discontinue surcharging special facilities altogether. Nevertheless, SOLIGAZ suggested during cross-examination that if the practice of surcharging certain facilities continues, then the special assets associated with the Line 1 expansion should be surcharged accordingly.

During cross-examination, several intervenors accepted IPL's proposed treatment of the new facilities and the Company's justification therefor. Of these, some suggested nevertheless that if IPL could identify the cost of the special facilities associated with the expansion, such costs could also reasonably be surcharged in place of the original assets.

Decision

The Board believes that within the principle of cost-based tolls is the concept of cost causality. In this regard, the Board recognizes IPL's argument that the expansion of Line 1 was part of an overall capacity program to meet the needs of all streams in general. The Board therefore accepts IPL's proposal to include the full amount of expansion costs in the light-crude base, and to continue surcharging NGL and refined products for the unrecovered costs of facilities originally constructed for those services.

8.6.4.2 13-Point Average Rate Bases

During the proceedings, IPL was questioned about the consistency of its treatment of special facilities for surcharge purposes and the treatment of those assets and associated operating costs in the calculation of IPL's overall revenue requirement. IPL currently uses a simple average in toll design for special facilities, and calculates no working capital allowance for the surcharges. The Company acknowledged that to be perfectly consistent with its determination of its overall rate base, the surcharge calculations should comprise 13-point av-

erages for the facilities, as well as include working capital allowances. However, the Applicant questioned the merit of introducing such a degree of precision for the surcharges when their calculations involve a number of other credits or charges based on various formulae and assumptions. IPL also noted the immateriality of introducing 13-point averages and working capital allowances to the surcharges, and challenged the need for the added complexity.

Decision

The Board recognizes the need for reason in determining the amount of precision and complexity to introduce to the surcharge calculations. The Board accepts IPL's argument that, given the immateriality and the nature of the various components which comprise the surcharges, the surcharge calculations for the existing NGL and refined product services do not necessitate 13-point average and working capital allowance calculations for the test year.

With respect to IPL's contemplated propane service, as well as the possible introduction of NGL service on the Montreal Extension, the Board is not persuaded that the argument of materiality is applicable to the calculation of the surcharges for these services, and directs that IPL, at least initially, apply a 13-point average to the NGL special facilities of the Montreal Extension and the propane special facilities of the Sarnia to Millgrove propane service.

8.6.5 Additional Operating Costs

In argument, the Airlines expressed the view that the present 5 and 15 percent operating cost surcharges require review. In its opinion, the evidence indicates that "newly constructed heavy oil facilities" have caused the hiring of a substantial number of employees to carry out increased maintenance, scheduling, monitoring and other operational work.

The Board notes that the existing operating cost surcharges for medium and heavy crude only attempt to offset additional fuel and power costs related to these streams. Accordingly, to the extent there are other additional operating costs associated with these streams, those costs are not reflected in the current toll design.

Decision

The Board does not agree with the Airlines' characterization of IPL's recent expansion program as "newly constructed heavy oil facilities". Rather, the Board views these facilities as a required expansion to system capacity. Notwithstanding this view, however, the Board believes that a stream which causes additional operating costs of a nature specific to that stream should be charged those costs through a surcharge.

The Board does not believe that there is sufficient evidence at this time to assign any additional operating costs, other than fuel and power, to medium and heavy crudes. However, in conjunction with the study ordered by the Board under Section 8.6.2.3, the Board requests that Interprovincial consider this matter and report back to the Board.

8.6.6 Terminalling Charges

During cross-examination, IPL was asked about the reasonableness of the manner in which its terminalling charges and associated tankage credits are calculated. IPL explained that, as approved by the Board, the Company derives a terminalling charge by dividing all terminalling-related costs by the number of projected terminalling operations. The resulting charge is applied equally to both receipt and delivery operations. IPL acknowledged during the hearing, however, that the cost of facilities provided to receive material far exceeds the cost of facilities provided for delivery. IPL explained that, for example, the Company generally provides tankage and metering at receipt locations but not at delivery points (exceptions are made where, for example, meters at a delivery location would serve more than one shipper).

IPL's tankage credits are designed to offset the cost of tankage included in the terminalling charges, and are granted to streams such as NGL, to which IPL does not provide receipt or delivery tankage. Because of the manner in which the terminalling charge is currently calculated, tankage credits are also applied equally between the receipt and delivery functions. IPL acknowledged that a review of the calculation of terminalling charges would have to include a reassessment of the tankage credit calculations, and suggested

that such a study would be fairly involved and time-consuming.

Decision

From the evidence available at the hearing, it appears to the Board that the method of calculating IPL's terminalling charges and associated tankage credits, although straightforward, may not be as cost-based as is desirable. The Board therefore suggests that IPL review this matter and include its findings in its next Class 3 toll application.

8.6.7 Distance-Related Surcharges (Credits) for NGL and Refined Products

In its application, IPL calculated its proposed test-year NGL and refined products additive surcharges (4.6 ¢/m^3 and 9.0 ¢/m^3 respectively) in accordance with the methodology approved by the Board. As outlined in Section 8.3.2 of these Reasons, IPL suggested as part of its toll design proposal for the conversion of the Montreal Extension that the surcharge for the NGL service, which would be provided between Edmonton and Montreal, should be distance-related. During cross-examination, IPL further suggested that, irrespective of the possible conversion and whether or not the Montreal Extension and Older System's NGL surcharge costs would be integrated, the NGL surcharge on the Older System should, conceptually, be distance-related.

In this regard, IPL was asked to provide a breakdown of the NGL and refined products surcharge revenue requirements between distance-related and non-distance-related components. In its response, IPL argued that although the revenue requirement includes both components, it would be cumbersome and unnecessarily complex to design the surcharges to reflect the two different bases. IPL indicated that the majority of the test-year surchargeable costs varied with distance, and suggested that the entire NGL and refined products surcharges should be distance-related, and that this be achieved through a percentage surcharge.[1] IPL indicated that, as an alternative, consideration could also be given to a distance-related additive.

During cross-examination, several intervenors suggested that distance-related surcharges for NGL and refined products, to the extent that the costs vary with distance, might be appropriate. However, with respect to the NGL surcharge in particular, some questioned the need for the surcharge to be distance related at this time, given the limited number of receipt and delivery points. In argument, Dome indicated that it had no objection to a distance-related surcharge for the existing NGL service, but submitted that a distance-related additive should be considered rather than a percentage-surcharge approach.

Decision

While the Board recognizes that the NGL and refined products surcharge revenue requirements comprise both distance-related and non-distance-related components, the Board agrees with IPL that the size of the surcharge revenue requirements does not merit the complexity of introducing two separate bases into the surcharge calculations. In the Board's view, however, there was not sufficient evidence presented in support of distance-related surcharges to demonstrate that the distance-related components of the surcharge would consistently outweigh the non-distance-related costs in the years beyond the test year. With respect to refined products in particular, the Board notes that its decision to grant a power-cost credit would yield a net value of distance-related components much lower than that presented by the Applicant. Overall, with the evidence before it at this time, and with a view towards achieving cost-based tolls, the Board is not prepared to approve distance-related surcharges for NGL and refined products. The Board directs that these surcharges continue to be calculated as straight additives as originally applied for by the Applicant.

8.6.8 Negative Surcharges

During the hearing, the Applicant explained that it has generally been the Company's policy that no liquid hydrocarbon should travel on its system for less than the light-crude toll. IPL indicated that it would be particularly concerned if, for example, the NGL surcharge were negative (i.e. a credit to the light-crude toll) as a result of the NGL power-cost credit calculation. With respect to refined products, IPL also addressed the matter of a power credit, and suggested that refined products travell-

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1 This would be calculated in a manner similar to that proposed by IPL for its propane service (see Section 8.2.2).

ing at less than the light-crude toll could have an impact on the economics of existing refineries.

In their arguments, Petro-Canada and Shell rejected IPL's rationale for not favouring negative surcharges under the current toll design, particularly IPL's argument regarding refinery economics. Dome also suggested that putting a limit on the credit applicable to the surcharge calculations was illogical, and submitted that a credit to the light-crude toll would simply be analagous to medium and heavy crudes paying more than the light-crude toll.

Decision

The Board believes that cost-based tolls should reflect the cost of transporting each of the various hydrocarbons on IPL's system. The Board notes that, in the case of IPL's toll design, light crude is simply the base to which the relative costs of moving all other streams are compared. Therefore, the Board sees no reason why certain streams should not pay less than the light-crude toll, and others more. Consequently, the Board directs that the surcharges to be applied to the various streams be those which result from the application of whatever methodology is approved for their determination, be the results negative or positive.

8.6.9 Resulting Toll Design Decisions by Stream

8.6.9.1 Light-Crude Toll

The Board approves the integrated toll methodology used by IPL (unchanged from that previously approved) to calculate the light-crude tolls for the test year. The Board notes that the light-crude equivalent factors for medium and heavy crudes should be calculated using the appropriate approved percentage surcharges for the test year, and that surcharge revenues from NGL and refined products used in the derivation of light-crude tolls may be negative or positive (see Section 8.6.8). However, as outlined in Section 8.6.6, the Board has requested that IPL review the method of calculating the Company's terminalling charge (and thus tankage credits) for its continued appropriateness.

8.6.9.2 Medium-Crude Surcharge

For the test year, the Board has approved the continuation of an operating-cost surcharge for medium crude of 5 percent. However, as outlined in Section 8.6.3.1, the Board has requested IPL to examine the continued suitability of this level. In addition to the surcharge for operating costs, the Board has approved for the test year a capacity surcharge for medium crude of 5 percent (see Section 8.6.2.3). The appropriate level of this surcharge will also be the subject of further review. In summary, for the test year, medium crudes shall pay the light-crude toll plus a total surcharge thereon of 10 percent.

8.6.9.3 Heavy-Crude Surcharge

For the test year, the Board has approved the continuation of an operating-cost surcharge for heavy crude of 15 percent. However, as outlined in Section 8.6.3.1, the Board has requested IPL to examine the continued suitability of this level. In addition to the surcharge for operating costs, the Board has approved for the test year a capacity surcharge for heavy crude of 15 percent (see Section 8.6.2.3). The appropriate level of this surcharge will also be the subject of further review. In summary, for the test year, heavy crudes shall pay the light-crude toll plus a total surcharge thereon of 30 percent.

8.6.9.4 NGL Surcharge

In its original application, IPL's proposed net NGL surcharge revenue requirement of $179,898 yielded a proposed NGL surcharge of 4.6 ¢/m^3 for the test year. IPL's amended toll schedule indicated a proposed NGL surcharge of 5.1 ¢/m^3.

The Board approves the methodology proposed by IPL (unchanged from that previously approved by the Board) to calculate the net NGL surcharge revenue requirement. However, as outlined in Section 8.6.3.2, the Board has approved different constants in the formula than those applied for in calculating the NGL power-cost credit.

The calculation of the net NGL surcharge revenue requirement for the test year takes the form shown in Table 8-2.

Table 8-2
Surcharge Revenue Requirement Methodology For NGL

Capital-Related Costs Including Return[1]	$	†
Additional Operating Costs		128,000
Total Special Facility Costs	$	†
Plus: Condensate Shrinkage Loss		†[2]
Less: NGL Power-Cost Credit		†[3]
Tankage Credit		†
Net NGL Surcharge Revenue Requirement	$	†

† Figure to be supplied by the Company.

1 See Sections 8.6.4 to 8.6.4.2.

2 The cost of condensate lost (excluding transportation costs) should be adjusted from that applied for to reflect the Board's Decision re oil loss expense outlined in Section 6.2.7.

3 See Section 8.6.3.2.

The magnitude of the various components shall change from those originally applied for, as appropriate, to reflect other changes approved by the Board such as those pertaining to fuel and power costs and cost of capital.

The Board has also directed that the NGL surcharge (be it positive or negative) continue to take the form of a straight additive (¢/m^3) as opposed to a distance-related surcharge (see Sections 8.6.7 and 8.6.8). For the test year, the capacity effects of NGL (if any) shall not be recognized (for the decision on capacity, see Section 8.6.2).

8.6.9.5 Refined Products Surcharge

In its original application, IPL's proposed net refined products surcharge revenue requirement of $480,487 yielded a proposed refined products surcharge of 9.0 ¢/m^3 for the test year. IPL's amended toll schedule indicated a proposed refined products surcharge of 9.3 ¢/m^3.

The Board approves the methodology proposed by IPL to calculate the net refined products surcharge revenue requirement, with the addition of a refined products power-cost credit (see Section 8.6.3.2).

Table 8-3
Surcharge Revenue Requirement Methodology for Refined Products

Capital-Related Costs Including Return[1]	$	†
Additional Operating Costs		412,000
Total Special Facility Costs	$	†
Less: Refined Products Power-Cost Credit		†[2]
Tankage Credit		†
Net Refined Products Surcharge Revenue Requirement	$	†

† Figure to be supplied by the Company.

1 See Sections 8.6.4 to 8.6.4.2.

2 See Section 8.6.3.2.

With the addition of a credit for power costs, the calculation of the net refined products surcharge revenue requirement for the test year takes the form shown in Table 8-3.

The magnitude of the applied-for components shall change, as appropriate, to reflect other changes approved by the Board such as those pertaining to fuel and power costs and cost of capital.

As outlined in Section 8.6.7, the Board has directed that the refined products surcharge (be it positive or negative, see Section 8.6.8) continue to take the form of a straight additive (¢/m^3) as opposed to a distance-related surcharge. For the test year, the capacity effects of refined products (if any) shall not be recognized (for the decision on capacity, see Section 8.6.2).

8.7 Interim Tolls

By Order No. TOI-2-86, the Board authorized interim tolls for Interprovincial effective 1 January 1987 with these tolls to remain in effect until a date specified by the Board in its final decision with respect to the Applicant's tolls. The Board's decision with respect to the method for adjusting the difference between interim and final tolls and the level of carrying charges, if any, associated with the adjustment was then reserved.

8.7.1 Prospective versus Retroactive Adjustment

Interprovincial supported the prospective method recommended by several intervenors for adjusting the excess or shortfall in revenues resulting from the difference between final and interim tolls. Under the prospective method, the revenue requirement adjustment would be achieved by rolling forward the difference (i.e. under-collection or over-collection) during the period that interim tolls were in effect and reflecting that in the tolls during the balance of the test year. Under the alternative method, i.e. the retroactive method, each invoice billed throughout the period of the interim tolls would require recalculation by applying the final tolls against deliveries during that period. The resultant difference would then be refunded to or recovered from the shippers depending on whether final tolls were less than or more than the interim tolls.

Interprovincial and several intervenors espoused the merits of the prospective adjustment in support of their positions and pointed out the drawbacks of the retroactive adjustment. They noted that the netback price paid to the producer is affected by the tolls paid to get production to the market. In the event of an over-recovery by IPL during the interim period (i.e. interim tolls were higher than final tolls), and if IPL were required to refund the excess revenues to the shippers, the producers would not benefit from the refund. The Board also notes that, conversely, from the shippers' perspective, if IPL under-recovers (i.e. if final tolls are higher than interim tolls), under the retroactive method, it would collect the shortfall from the shippers but the shippers could not then recover the additional costs from the market.

The prospective method does not, however, have the precision and accuracy of the retroactive method and the issue of possible discrimination/inequity owing to throughput and shipper variations arises. The Applicant, however, did not expect a major shift in shipper mix over the near term and indicated that no user of the system would be significantly discriminated against. During cross-examination, the possible disadvantages that could be associated with the prospective adjustment were raised. Several intervenors reiterated that the prospective method was more equitable and its benefits outweighed possible problems attributable to it. No intervenor advocated the retroactive method for adjusting the difference between interim and final tolls.

Decision

Upon review the Board finds that the prospective method of adjustment would be more appropriate and equitable, in the present circumstances, than the retroactive method.

8.7.2 Carrying Charges

The issue of carrying charges on the difference between interim and final tolls was not raised by the Applicant. IPL indicated that it associated carrying charges with a retroactive adjustment.

Decision

Section 52.2 of the Act allows interest on amounts recovered or refunded and, in the Board's view, this is not governed by the adjustment method used. The Board considers that carrying charges are appropriate regardless of whether there is a shortfall or over-recovery resulting from interim tolls being in effect.

The Board is of the view that carrying charges should be applied at the Board-approved Older System rate of return on rate base.

8.7.3 Implementation of the Prospective Method

8.7.3.1 Throughputs

Implementation of the prospective method requires the determination of revenues received or deemed to be received during the period that interim tolls were in effect. IPL proposed to use actual revenues received during the interim period. During cross-examination, the Applicant indicated that actual throughputs and interim tolls would be used to determine these actual revenues in the interim period. IPL, however, agreed that this would make it risk free with respect to throughput fluctuations during the period that interim tolls were in place.

Another matter pursued was that using the actual throughput, rather than the Board-approved throughput forecast, in the determination of revenue received during the interim period would present practical problems in that actual revenues

would need to be known the day before establishing the final tolls. The Applicant's witness, recognizing this, admitted that one or two months of throughput would have to be estimated.

Decision

The Board finds that the use of actual throughputs to determine revenues during the interim period would not be appropriate. The Board directs that the Board-approved throughput forecast be used to determine the revenue deemed to be received during the period that interim tolls were in effect. The Board recognizes that implementation of this decision will require IPL to assign its approved throughput forecast between the interim toll period and the remainder of the test year. In that respect, the Board requires IPL to include in its schedules and working papers to be filed pursuant to Board Order No. TO-2-87 schedules showing the derivation of the assigned approved throughput forecast.

8.7.3.2 Mechanics of Implementing the Prospective Method

Decision

To implement the prospective method of adjustment, the Board directs that the following steps be followed.

i) Deemed Revenue Received

The Board requires that the deemed revenue received during the interim period be determined by applying the interim tolls approved in Order No. TOI-2-86 to the approved throughput forecast for the interim period determined pursuant to Section 8.7.3.1 of this report.

ii) Over-Recovery or Under-Recovery During the Interim Toll Period

The Board directs that the over-recovery or under-recovery of revenue requirement during the interim toll period be determined by deducting the deemed revenue received (see item (i)) from the revenue that would have been received had the final tolls been in effect throughout the interim period. The latter is calculated by applying the tolls as described in Section 8.7.3.3[1] to the approved throughput forecast determined for the interim period as indicated in Section 8.7.3.1.

iii) Carrying Charges

The Board requires that carrying charges be calculated as illustrated in Appendix V to this report, on the amount deemed to be over-recovered or under-recovered during the interim toll period, determined as described in item (ii).

iv) Calculation of Tolls to be Effective at the End of the Interim Period

The methodology approved by the Board requires that tolls for the remainder of the year, after the end of the period of interim tolls, be determined based on a residual revenue requirement, carrying charges on the over-recovery or under-recovery during the interim period and a prorated throughput forecast for the remaining months of the test year. The Board directs that the residual revenue requirement be determined by subtracting the deemed revenue received as described in item (i) from the total revenue requirement for the test year.

To determine tolls that will be in effect from the first day after the end of the interim period to the end of the test year, IPL is required to apply the prorated throughput forecast for that part of the test year (see Section 8.7.3.1) to the residual revenue requirement adjusted to reflect carrying charges as described in Appendix V, item III.

8.7.3.3 Tariffs

Since the prospective method involves rolling forward the shortfall or excess revenues over the balance of the test year to establish final tolls, this could distort tolls in 1988 if the tolls so computed continue to apply beyond 31 December 1987.

Decision

The Board accordingly requires that the tariff setting out the tolls calculated pursu-

1 Tolls based on approved throughput and revenue requirement for the test year.

ant to Section 8.7.3.2 of this report specify that the tolls will not be in effect beyond 31 December 1987.

The Board recognizes that a toll adjustment application may be received from IPL prior to 1 January 1988. However, given that IPL may not file such an application, the Board requires that IPL calculate tolls to become effective 1 January 1988. The Board requires that these tolls be based on the test-year approved revenue requirement and throughput forecasts. Schedules supporting the calculation of these tolls as well as those to be calculated pursuant to Section 8.7.3.2 of these Reasons for Decision are to be included in the schedules to be filed in accordance with Order No. TO-2-87.

Chapter 9
Disposition

The foregoing chapters, together with Order No. TO-2-87, constitute the Board's Reasons for Decision and Decision on this application.

A.D. Hunt
Presiding Member

R.B. Horner, Q.C.
Member

A.B. Gilmour
Member

Ottawa, Canada
June 1987

Appendix I

ORDER NO. TO-2-87

IN THE MATTER OF the National Energy Board Act and the Regulations made thereunder, and

IN THE MATTER OF an application by Interprovincial Pipe Line Limited (hereinafter called "Interprovincial") dated 5 September 1986 for certain orders respecting tolls and tariffs pursuant to Part IV of the National Energy Board Act, filed with the Board under File No. 1762-J1-11.

BEFORE:

A.D. Hunt
Presiding Member

R.B. Horner, Q.C.
Member

On Thursday the 18th day of June, 1987.

A.B. Gilmour
Member

WHEREAS an application dated 5 September 1986, as revised, has been made to the Board by Interprovincial seeking, inter alia, Orders under Part IV of the National Energy Board Act fixing the tolls and tariffs Interprovincial may charge for or in respect of the transportation of crude oil and other liquid hydrocarbons effective 1 January 1987;

AND WHEREAS the Board has issued, on 22 December 1986, Order No. TOI-2-86, stipulating therein tolls to be charged by Interprovincial on an interim basis commencing 1 January 1987;

AND WHEREAS the Board has heard the evidence and submissions of Interprovincial and all interested parties with respect to the application at a public hearing held pursuant to Board Order No. RH-4-86 which commenced in Ottawa on 2 December 1986;

AND WHEREAS the Board's decisions on the application are set out in its Reasons for Decision dated June 1987 and in this Order;

IT IS ORDERED THAT:

1. Interprovincial shall, for toll-making, tariff and accounting purposes, implement the decisions of the Board outlined in the Reasons for Decision dated June 1987 ("Reasons for Decision") and this Order.

2. Interprovincial shall calculate the value of each component of the revenue requirement that is identified in the Reasons for Decision as requiring determination by Interprovincial.

3. Interprovincial is directed to, as soon as possible, file with the Board, 15 copies, and serve on interested parties to the hearing, 1 copy, of the following:

   (a) the resulting calculations, all intermediate calculations and working papers used to determine the components of the revenue requirement outlined in paragraph 2;

   (b) a schedule of tolls conforming with the decisions outlined in the Reasons for Decision and this Order; and,

   (c) a schedule of tolls and supporting calculations conforming with the decisions outlined in the Reasons for Decision, but which exclude the disposition of any shortfall or excess in revenues in respect of interim tolls.

4. For final tolls to be effective 1 September 1987, the Board requires that the material detailed in paragraph 3 be filed with the Board no later than 13 August 1987.

5. Subsequent to Interprovincial being advised that the tolls filed pursuant to paragraph 3 are acceptable to the Board, Interprovincial will be required to file with the Board and serve on interested parties a printed tariff containing the tolls and reflecting the decisions outlined in the Reasons for Decision.

6. Pursuant to subsection 16.1(2) and Section 52.2 of the NEB Act, the Board directs that the disposition of any shortfall or excess in revenues, together with carrying charges thereon determined using the Board-approved Older System rate of return on rate base, resulting from the charging of the approved interim tolls, shall be on a prospective basis.

NATIONAL ENERGY BOARD

J.S. Klenavic
Secretary

Appendix II

Hearing Order RH-4-86 Directions on Procedure

Interprovincial Pipe Line Limited - Application For Tolls Effective 1 January 1987

By application dated 5 September 1986, Interprovincial Pipe Line Limited ("IPL" or "the Applicant") has applied to the National Energy Board ("the Board") for, among other things, orders respecting tolls under Part IV of the National Energy Board Act. Having considered the application, the Board has decided to hold a public hearing and directs as follows:

PUBLIC VIEWING

1. The Applicant shall deposit and keep on file, for public inspection during normal business hours, a copy of the application in its offices at 150 King Street West, Toronto, Ontario and IPL Tower, 10201 Jasper Avenue, Edmonton, Alberta. A copy of the application is also available for viewing in the Board's Library, Room 962, 473 Albert Street, Ottawa, Ontario, K1A 0E5 and at the National Energy Board, 4500 - 16th Avenue, N.W., Calgary, Alberta, T3B 0M6.

INTERVENTIONS AND LETTERS OF COMMENT

2. Interventions and Letters of Comment are required to be filed with the Secretary and served on the Applicant by 17 October 1986.

3. The Secretary will issue a list of intervenors shortly after 17 October 1986.

INFORMATION REQUESTS

4. Information Requests addressed to the Applicant or any other party to the proceeding are required to be filed with the Secretary and served on all other parties by 12 November 1986.

5. Response to information requests received within the specified time limit shall be filed with the Secretary and served on all parties to the proceeding by 21 November 1986.

WRITTEN EVIDENCE

6. IPL's additional written evidence is required to be filed with the Secretary and served on all parties identified in Appendix II by 6 October 1986.

7. Intervenor written evidence is required to be filed with the Secretary and served on all other parties to the proceeding by 31 October 1986.

HEARING

8. The public hearing will commence at Ottawa, Ontario on 2 December 1986 at 9:30 a.m. at the offices of the NEB, 473 Albert Street, Ottawa, Ontario.

SERVICE TO PARTIES

9. The Applicant shall serve a copy of these Directions on Procedure and the Notice of Public Hearing, attached as Appendix I, forthwith on all parties identified in Appendix II.

NOTICE OF HEARING

10. The publications in which the Applicant is required to publish the Notice of Public Hearing, on or before 8 October 1986, are listed in Appendix III.

PROCEDURE FOR HEARING OF EVIDENCE

11. At the hearing, unless otherwise authorized by the Board, the evidence shall be heard in the following order:

    i) The Matter of Interim Tolls

    ii) Toll Design and Tariff Matters

iii) Throughput, Rate Base, Cost of Service and Rate of Return

12. For the purpose of the hearing of evidence on each item listed in paragraph 11, the following procedure shall apply:

    i) IPL shall present its evidence on the item;

    ii) Intervenors and Board Counsel shall have the right to cross-examine IPL's witnesses on that item;

    iii) Intervenors shall present their evidence on that item in an order to be specified at the commencement of the proceedings;

    iv) After each Intervenor has presented its evidence, other Intervenors, IPL and Board Counsel shall have the right of cross-examination.

LIST OF ISSUES

13. The Board intends to examine, but does not limit itself to, the issues specified in Appendix IV.

14. Intervenors wishing to raise matters not addressed in IPL's application or outlined in Appendix IV should so indicate at the time of filing their intervention.

FILING AND SERVICE REQUIREMENTS

15. Where parties are directed by these Directions on Procedure or by the Draft NEB Rules of Practice and Procedure to file or serve documents on other parties, the following number of copies shall be served or filed:

    i) for documents to be filed with the Board, provide 35 copies;

    ii) for documents to be served on the Applicant, provide 3 copies; and

    iii) for documents to be served on intervenors, provide 1 copy.

16. Parties filing or serving documents at the hearing shall file or serve the number of copies specified in paragraph 15.

17. Persons filing letters of comment should serve one copy of the documents on IPL and file one copy with the Board, which in turn will provide copies for all other parties.

18. Parties filing or serving documents less than four business days prior to the commencement of the hearing shall bring to the hearing a sufficient number of copies of the documents for use by the Board and other parties present at the hearing.

SIMULTANEOUS INTERPRETATION

19. All parties are requested to indicate in their interventions the official language they intend to use at the hearing. If it appears that both official languages will be used, simultaneous interpretation will be provided.

GENERAL

20. All parties are asked to quote Hearing Order No. RH-4-86 when corresponding with the Board in this matter.

21. Subject to the foregoing, the procedure to be followed in this proceeding shall be governed by the Draft NEB Rules of Practice and Procedure dated 18 February 1985.

22. Unless otherwise directed by the Board, the hours of sitting shall be from 9:00 a.m. to 1:00 p.m.

23. Should the hearing of this application extend beyond 19 December 1986, the hearing will reconvene on 6 January 1987.

24. For information on this hearing, or the procedures governing the hearing, contact Mrs. K. Pope, Regulatory Support Officer, at (613)990-3208.

J.S. Klenavic
Secretary

Order RH-4-86
Appendix I

NATIONAL ENERGY BOARD
NOTICE OF PUBLIC HEARING

Interprovincial Pipe Line Limited
Application for Tolls Effective
1 January 1987

The National Energy Board ("the Board") will conduct a public hearing into an application, dated 5 September 1986, by Interprovincial Pipe Line Limited ("the Applicant") pursuant to Part IV of the National Energy Board Act for, among other things, orders respecting the tolls which the Applicant may charge as of 1 January 1987.

The hearing will commence at the offices of the National Energy Board, 473 Albert Street, Ottawa, Ontario on 2 December 1986 at 9:30 a.m.

The hearing will be held to obtain the evidence and relevant views of interested parties on the application.

Anyone wishing to intervene in the hearing must file a written intervention with the Secretary of the Board and serve a copy on the Applicant. The Applicant will provide a copy of the application to each intervenor.

Anyone wishing only to comment on the application should write to the Secretary of the Board and send a copy to the Applicant at Box 96, 150 King Street West, Toronto, Ontario, M5H 1J9.

The deadline for receipt of either written interventions or comments is 17 October 1986. The Secretary will then issue a list of intervenors.

Information on the procedures for this hearing or the NEB Rules of Practice and Procedure governing all hearings are available in both English and French and may be obtained by writing to the Secretary or telephoning the Board's Regulatory Support Office (613) 998-7206. Please quote No. RH-4-86 when corresponding with the Board on this matter.

J.S. Klenavic
Secretary
National Energy Board
473 Albert Street
Ottawa, Ontario
K1A 0E5
Telecopier No. 990-7900
Telex No. 053-3791

26 September 1986

Order RH-4-86
Appendix II

LIST OF PARTIES

All parties referred to in paragraph 7 of Order No. TO-4-85;

All potential shippers;

All other parties who have expressed an interest in the matters raised in the application; and

Nova Scotia Dept. of Mines and Energy
Office of Deputy Minister
P.O. Box 1087
1690 Hallis Street
Halifax, Nova Scotia
B3J 2X1

Attention: Mr. J.J. Laffin, P. Eng.

Assistant Deputy Minister for Energy
Ministry of Energy, Mines and Petroleum Resources
Parliament Buildings
Victoria, B.C.
V8V 1X4

Attention: Mr. E.R. Macgregor

Order RH-4-86
Appendix III

LIST OF PUBLICATIONS

Publications	City
"Herald"	Calgary, Alberta
"The Edmonton Journal" & "Le Franco-Albertain"	Edmonton, Alberta
"The Leader-Post" and "Journal l'eau-vive"	Regina, Saskatchewan
"The Winnipeg Free Press"	Winnipeg, Manitoba
"La Liberté"	St. Boniface, Manitoba
"The Globe and Mail", "Star" "Financial Times of Canada", "The Financial Post" and "L'Express"	Toronto, Ontario
"The Citizen" & "Le Droit"	Ottawa, Ontario
"The Gazette", "Le Devoir" & "La Presse"	Montreal, Quebec
"Le Soleil" & "The Chronicle Telegraph"	Quebec, Quebec
"Canada Gazette"	Ottawa, Ontario

Order RH-4-86
Appendix IV

LIST OF ISSUES

The Board intends to examine, but does not limit itself to, the following issues:

i) the need to set interim tolls effective 1 January 1987 and, if so, the level of such interim tolls, and how any over or under recovery accumulated during such period of interim tolls should be subsequently recovered from or credited to shippers;

ii) the appropriate methodology for determining the level of surcharge for carriage of medium and heavy crude oil having regard to the additional operating costs, the effect on capacity to move medium and heavy crudes, and the associated capital costs.

iii) the suitability of IPL's proposed toll design methodology for propane service from Sarnia to Millgrove, Ontario;

iv) the appropriateness of IPL's throughput forecast for the test year;

v) the appropriateness of IPL's proposed rate base, including forecast additions to and retirements from rate base, and the methodology for calculating working capital allowance;

vi) the appropriateness of IPL's projected test year cost of service (excluding return);

vii) the matter of whether IPL's provision for income taxes should continue to be made under the normalized method; and,

viii) the appropriateness of the applied-for capitalization and rates of return.

With regard to the Applicant's request that the Board consider the appropriate toll design related to the potential conversion of the Montreal Extension to accommodate the transportation of NGL's, the Board will decide whether to examine this issue after the views of the Applicant and interested parties in response to the Board's letter of 19 September 1986 have been received.

Appendix III

ORDER NO. TOI-2-86

IN THE MATTER OF the National Energy Board Act ("the Act") and the Regulations made thereunder, and

IN THE MATTER OF an Application by Interprovincial Pipe Line Company Limited (the "Applicant"), dated 5 September 1986, for certain Orders respecting tolls and tariffs pursuant to Part IV of the National Energy Board Act, filed with the Board under File No. 1762-J1-11.

B E F O R E the Board on Thursday, the 18th day of December 1986.

WHEREAS, by Application dated 5th of September 1986, pursuant to Part IV of the National Energy Board Act ("the Act"), the Applicant requested Orders approving just and reasonable tolls and tariffs to be charged by the Applicant in 1987 for the transportation of crude oil and other liquid hydrocarbons;

AND WHEREAS the Applicant requested, inter alia, an Order fixing the tolls which the Applicant may charge effective 1 January 1987;

AND WHEREAS the Board in the public hearing held pursuant to Order No. RH-4-86 heard the evidence presented by the Applicant and interested parties on the matter of interim tolls;

IT IS ORDERED THAT, pursuant to subsection 16.1(2) and Section 52.2 of the Act:

The tolls tabulated on the attached Schedule 1 shall be effective 1 January 1987 on an interim basis and shall remain in effect until a date to be specified in a final order with respect to tolls for the transportation of crude oil and other liquid hydrocarbons on the IPL pipeline system, to be rendered as part of the Board's final disposition in this matter.

NATIONAL ENERGY BOARD

J.S. Klenavic
Secretary

Schedule 1

Order No. TOI-2-86

Interprovincial Pipe Line Limited
Tabulation of Interim Tolls in Dollars
Per Cubic Metre
1987

Line No.	Source (a)	Delivery Location (b)	Interim Tolls (c)
Light Crude Rates			
1	Edmonton	Edmonton	0.388
2	Edmonton	Hardisty	0.779
3	Edmonton	Kerrobert	1.172
4	Edmonton	Milden	1.427
5	Edmonton	Regina	1.962
6	Edmonton	Gretna	3.164
7	Edmonton	U.S. Points	2.977
8	Edmonton	Sarnia	3.198
9	Edmonton	Toronto	3.748
10	Edmonton	Nanticoke	3.800
11	Edmonton	Buffalo	3.675
12	Edmonton	Montreal	5.059
13	Hardisty	Kerrobert	0.781
14	Hardisty	Regina	1.570
15	Hardisty	U.S. Points	2.586
16	Hardisty	Sarnia	2.807

Line No.	Source (a)	Delivery Location (b)	Interim Tolls (c)
17	Hardisty	Toronto	3.357
18	Hardisty	Nanticoke	3.409
19	Hardisty	Buffalo	3.284
20	Hardisty	Montreal	4.667
21	Kerrobert	Regina	1.177
22	Kerrobert	U.S. Points	2.193
23	Kerrobert	Sarnia	2.413
24	Kerrobert	Toronto	2.963
25	Kerrobert	Nanticoke	3.014
26	Kerrobert	Buffalo	2.890
27	Kerrobert	Montreal	4.273
28	Regina	Regina	0.388
29	Regina	Gretna	1.590
30	Regina	U.S. Points	1.403
31	Regina	Sarnia	1.625
32	Regina	Toronto	2.174
33	Regina	Nanticoke	2.226
34	Regina	Buffalo	2.101
35	Regina	Montreal	3.485
36	Cromer	U.S. Points	0.833
37	Cromer	Sarnia	1.054
38	Cromer	Toronto	1.604
39	Cromer	Nanticoke	1.655
40	Cromer	Buffalo	1.530
41	Cromer	Montreal	2.915
42	U.S. Points	Sarnia	0.220
43	U.S. Points	Toronto	0.770
44	U.S. Points	Nanticoke	0.822
45	U.S. Points	Buffalo	0.697
46	U.S. Points	Montreal	2.081
47	Sarnia	Toronto	0.938
48	Sarnia	Nanticoke	0.989
49	Sarnia	Buffalo	0.865
50	Sarnia	Montreal	2.248
51	Toronto	Montreal	1.760

Refined Petroleum Products Rates

Line No.	Source (a)	Delivery Location (b)	Interim Tolls (c)
52	Edmonton	Milden	1.515
53	Edmonton	Regina	2.050
54	Edmonton	Gretna	3.253
55	Regina	Gretna	1.679

Natural Gas Liquids Rates

Line No.	Source (a)	Delivery Location (b)	Interim Tolls (c)
56	Edmonton	Sarnia	3.246
57	Kerrobert	Sarnia	2.461
58	Cromer	Sarnia	1.102

NOTE:

1. Medium and heavy crude surcharges of 5% and 15% respectively apply to the light crude rates.

2. Deliveries of refined petroleum products through Carrier's tankage at Gretna, Manitoba will be assessed an additional $0.157 per cubic metre.

Appendix IV

Methodologies to Reflect Capacity Utilization in Tolls

This appendix outlines some methodologies which were discussed during the hearing as possible means of allocating IPL's revenue requirement on the basis of capacity utilization. None of the methodologies considers the impacts on capacity of operational factors such as short hauls or batching.

It is assumed that any toll methodology to reflect capacity effects would be applied uniformly to all hydrocarbon streams using the IPL system. Therefore, although the term "surcharge" is used throughout the appendix, it is recognized that credits could result in certain cases.

Wherever possible, numerical examples have been provided. These examples are used only to illustrate the methodologies and are not necessarily indicative of surcharge levels which could actually result. The figures used in such examples originate from evidence presented at the hearing. All examples use light crude as the base to which other streams are compared. That is consistent with IPL's existing practice of using light crude as a base for all toll calculations.

There are a number of possible methods of calculating surcharges based on theoretical capacities of IPL's system with different hydrocarbons flowing. Inherent in all of these methodologies is the requirement that capacities for moving various hydrocarbons be determined and compared to the capacity for light crude.

IPL provided a breakdown of the forecast revenue requirement for the test year into capacity-related and non-capacity-related costs. The breakdown shows that about 77 percent ($183,336,000/ $237,544,000) of the revenue requirement is capacity-related. (That breakdown will be used in this appendix for illustrative purposes.)

The examples shown for the following methodologies have been derived from a limited amount of information, generally applicable to only one section of one of IPL's lines, under a specific set of assumptions regarding flows and operational conditions. As IPL pointed out, the effect of different streams on capacity is difficult to quantify, except in a particular situation at a particular point in time. It was the evidence of IPL that an appropriate methodology to account for capacity effects would be very complex, and could not be based on one graph.

Methodology 1: Ratios of Capacities with Only One Stream Flowing

APMC suggested a surcharge based on the ratios of capacities determined with only one stream flowing in a line at a time. APMC proposed that the ratios be applied to the light-crude rate, thus effectively allocating the entire revenue requirement based on capacity. The allocation could also be applied only to that portion of the revenue requirement related to capacity (i.e. 77 percent per Exhibit B-28).

Example: Sustainable capacities for Line 3 between Kerrobert and Regina with only one hydrocarbon flowing (reference Exhibit B-13c) are 135 200 m^3/d for light crude, 109 400 m^3/d for medium crude, and 92 400 m^3/d for heavy crude. These capacities would result in the following levels of surcharges under this methodology:

(a) 18 percent for medium crude (i.e. 135 200 less 109 400, divided by 109 400, x 77 percent).

(b) 36 percent for heavy crude (i.e. 135 200 less 92 400, divided by 92 400, x 77 percent).

Methodology 2: Total Displacement Effect

This method would calculate surcharges as the ratio of forecasted flows of each individual stream to

the resulting impact of those individual flows on light-crude capacity.

Example: In 1988 it is forecast that an average of 45 200 m^3/d of heavy crude will flow in Line 3. Graph 1 attached hereto shows that 45 200 m^3/d of heavy crude reduces Line 3 capacity by about 50 000 m^3/d (160 000 less 110 000). The resulting surcharge under this methodology would be 85 percent (50 000 divided by 45 200, x 77 percent).

Methodology 3: Total Displacement Effect - Allocated

This methodology would estimate the cumulative effect of streams on capacity where the previous methodology considered individual effects only. This methodology would then attempt to allocate the capacity change between the streams which caused it.

Example: Flows on Line 3 are forecast to be 10 400 m^3/d of medium crude and 45 200 m^3/d of heavy crude in 1988. Graph 1 shows that these flows would result in a reduction in light-crude capacity between Kerrobert and Regina of 50 000 m^3/d for that section.

The 50 000 m^3/d of lost capacity is allocated between medium and heavy crudes on some basis (for example purposes, use 10 percent to medium and 90 percent to heavy) resulting in 5 000 m^3/d to medium and 45 000 m^3/d to heavy with respective surcharges of 37 percent (5 000 divided by 10 400, x 77 percent) for medium and 77 percent (45 000 divided by 45 200, x 77 percent) for heavy.

Methodology 4: Recovering for Lost Capacity by Charging the Light-Crude Rate

Surcharges could be designed so that the streams deemed to have caused a change in capacity would be assigned the gained/lost revenue which IPL would have foregone/received had light crude flowed.

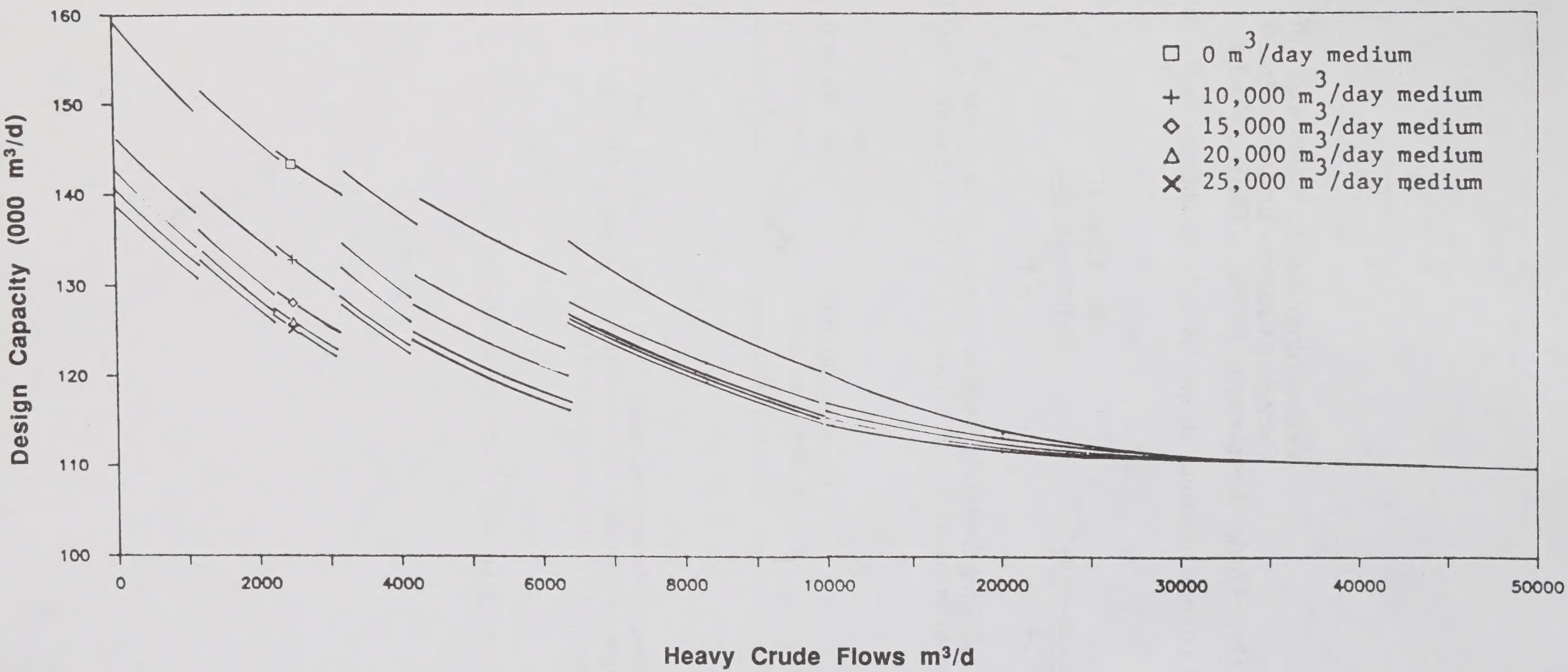
Prior to the February 1984 Reasons for Decision, IPL surcharged NGL for lost capacity on this basis. Basically, the loss in capacity caused by NGL was calculated in cubic metres per day. That was multiplied by the light-crude rate for transportation from Edmonton to the U.S. border (including terminalling charges), and the resulting figure became part of the surchargeable revenue requirement for NGL.

Example: If it is determined that forecast flows of 45 200 m^3/d of heavy crude would result in a light-crude capacity reduction of 50 000 m^3/d, then heavy crude would be surcharged 111 percent under this methodology (50 000 divided by 45 200).

IPL's response to
National Energy Board
letter dated
October 3, 1986
File No.: N1762-J1-11
Question No. 46

Graph 1

LINE 3 CAPACITY
(Kerrobert to Regina))
Capacity for Varying Heavy Volumes



Appendix V

Methodology for the Calculation of Carrying Charges on the Deemed Over/Under Recovery of Revenue During the Interim Toll Period

I Using the following formula, determine carrying charges on the average over-recovery or under-recovery.

$$\frac{\text{Over/Under Recovery*}}{2} \times \frac{\text{No. of Days of the Interim Period}}{365} \times \text{Approved Older System Rate of Return on Rate Base}$$

II Using the following formula, determine an adjustment for carrying charges to reflect that the over-recovery or under-recovery will be refunded or collected respectively over the remaining days of the test year.

$$\frac{\text{Over/Under Recovery*} + \text{Carrying Charges Determined Under I Above}}{2} \times \frac{\text{365 - No. of Days of the Interim Period}}{365} \times \text{Approved Older System Rate of Return on Rate Base}$$

III Add the amounts determined under items I and II above to derive the total carrying charges. The carrying charges so derived are to be added to or subtracted from the residual revenue requirement which is to be recovered over the remainder of the test year.

---

* The over-recovery or under-recovery is determined in accordance with Section 8.7.3.2, item (ii).